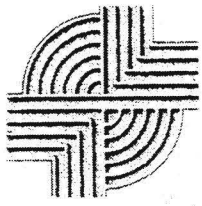
CULTURAL RESOURCES SURVEY OF CATAWBA RIDGE BOULEVARD, LANCASTER COUNTY, SOUTH CAROLINA

Prepared By:
Michael Trinkley, Ph.D., RPA
Nicole Southerland
and
Tom Covington

Prepared For:
Ms. Donna Hagins
D.H. Hagins and Associates
2583 Kershaw-Camden Highway
Lancaster, South Carolina 29720

CHICORA RESEARCH CONTRIBUTION 320



Chicora Foundation, Inc.
PO Box 8664
Columbia, SC 29202-8664
803/787-6910
Email: chicora@bellsouth.net
www.chicora.org

February 12, 2001

This report is printed on permanent paper ∞

ABSTRACT

This study reports on an intensive cultural resources survey of an 8.5 mile long road corridor in the southwest portion of Lancaster County, South Carolina. The work was conducted to assist D.H. Hagins and Associates comply with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

The tract is to be used by Crescent Resources, Inc. for the construction of Catawba Ridge Boulevard. The roadway corridor is 44,880 feet in length and 100 feet in width throughout a generally level to gently sloping woodland. The road will connect SC 200 and S-187 (Bethel Road) and serve as the primary access road for a future 3,000 acre development tract known as Catawba Ridge.

This survey was conducted to identify and assess archaeological and historical sites which may be in the project corridor. For this study an area of potential effect (APE) 1.0 mile around the proposed roadway was assumed. The proposed route was already cleared at the time of this survey and this clearing and grubbing, with subsequent erosion, clearly affected some of the archaeological sites identified by this study. Moreover, the proposed construction will have the potential to cause additional damage to the identified archaeological and historical sites.

Consultation with the S.C. Department of Archives and History revealed four previously identified architectural resources, 15.001, 10.001, 10.002, and 10.006 in the APE. These sites, which include two churches and their cemeteries and two houses, were identified during a previous comprehensive survey of this portion of Lancaster County, have been previously determined not eligible for the National Register of Historic Places by the State Historic Preservation Office. An investigation of the archaeological site files at the S.C. Institute of Archaeology and Anthropology identified seven archaeological sites within the APE, 38LA14, 38LA63, 38LA80, 38LA181, 38LA243, 38LA244, and 38LA245. Not all of these sites have been formally assessed by the State Historic Preservation Office.

The archaeological study of the tract incorporated shovel testing at 100-foot intervals on the center line of the proposed corridor. All shovel test fill was screened through ¼-inch mesh and the shovel tests were backfilled at the completion of the study. A total of 475 shovel tests were excavated in the survey tract along with an intensive surface survey. Thirteen sites were found as a result of the investigation with one site, a historic cemetery (38LA447), recommended eligible for inclusion on the National Register of Historic Places under Criterion D.

The investigations confirmed the presence of only two of the four previously reported architectural sites. Sites 10.002 and 10.006 are no longer standing, but the churches, sites 10.001 and 15.001, are still present and are being used. One site, a ca. 1835 one-story gabled roof Methodist Church has been moved closer to the road and has had vinyl siding and shingles added. The second building, also a church, is a ca. 1929 one-story gabled roof and hip structure. There have been several alterations including the removal of the bell towers. Both churches also have a historic cemetery on the property. These sites were previously found not eligible for the National Register of Historic Places — a finding with which we agree.

Finally, it is possible that more archaeological remains may be encountered in the corridor during construction. Construction crews should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office or to Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No construction should take place in the vicinity of these late discoveries until they have been examined by

an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

TABLE OF CONTENTS

List of Figures iv

List of Tables iv

Introduction 1

Natural Environment 7
- *Physiographic Setting and Geology* 7
- *Soils* 7
- *Climate* 9
- *Floristics* 9

Prehistoric and Historic Background 11
- *Previous Research* 11
- *Prehistoric Overview* 11
- *Historic Overview* 17

Methods 21
- *Archaeological Field Methods* 21
- *Architectural Survey* 21
- *Site Evaluation* 22
- *Laboratory Analysis* 23

Results of Survey 25
- *Introduction* 25
- *Archaeological Sites* 25
- *Historic and Architectural Resources* 48

Summary and Recommendations 51

Sources Cited 53

LIST OF FIGURES

Figure

1. Project vicinity in Lancaster County 2
2. Project corridor, previously identified archaeological and architectural sites 3
3. View of the project corridor 4
4. View of the project corridor 4
5. Cross section of the corridor from south to north 8
6. Generalized cultural periods for South Carolina 12
7. Portion of Mills' *Atlas* showing the project area 18
8. Portion of the 1939 *General Highway and Transportation Map* showing the study area 19
9. Identified sites in the survey corridor 26
10. Sketch map of 38LA435 27
11. View of 38LA435 28
12. Sketch map of 38LA436 29
13. Sketch map of 38LA437 30
14. Sketch map of 38LA438 32
15. Sketch map of 38LA439 33
16. View of 38LA440 34
17. Sketch map of 38LA440 35
18. Sketch map of 38LA441 37
19. View of 38LA442 38
20. View of trash deposits at 38LA442 39
21. Sketch map of 38LA442 40
22. Sketch map of 38LA443 41
23. Sketch map of 38LA444 43
24. Sketch map of 38LA445 45
25. Sketch map of 38LA446 46
26. View of the south facade of the Camp Creek Zion A.M.E. Church 48
27. Brush arbor Church at the rear of the Camp Creek Zion A.M.E. Church 48
28. Cemetery at the side of the Camp Creek Zion A.M.E. Church 49
29. Camp Creek United Methodist Church 49
30. Cemetery at the rear of the Camp Creek United Methodist Church 50

LIST OF TABLES

Table

1. Artifacts recovered from 38LA440 36
2. Artifacts recovered from 38LA444 42
3. Artifacts recovered from 38LA446 47
4. Identified archaeological sites 51

INTRODUCTION

This intensive archaeological survey of the proposed Catawba Ridge Boulevard in Lancaster County was conducted by Dr. Michael Trinkley of Chicora Foundation, Inc. for Ms. Donna Hagins of D.H. Hagins and Associates. The work was conducted to assist D.H. Hagins and Associates comply with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

The project site consists of a corridor measuring about 44,880 feet in length and 100 feet in width, situated in southwest Lancaster County about 8.0 miles southwest of the city of Lancaster (Figure 1). It is designed to tie SC 200 to S-187 (also known as Bethel Road). This proposed road will serve as the central corridor for the proposed development, bisecting and linking the various residential, commercial, and retail portions of the 3,000 acre Catawba Ridge project. The current survey involves only the major access corridor and not any of the development parcels (Figure 2),

The corridor consists of a generally level tract exhibiting a gently sloping terrain and is forested in a second growth of pine and mixed hardwoods. Parts of the survey area may have been cultivated in the past, but no modern cultivation was evident. The corridor is located in a fairly rural part of Lancaster, with future development planned for the surrounding land.

The corridor, as previously mentioned, is intended to be used as a roadway. At the time of our survey the bulk of the corridor had been clear cut, roots and stumps grubbed out, and preliminary grading had been completed. Subsequent to this site work, it appears that many areas along the corridor had been affected by erosion. Throughout the study area the survey corridor was a ribbon of exposed red clay. Almost nowhere on the corridor were intact A horizon soils encountered (Figure 3).

The construction will likely include additional clearing and grubbing in a few areas, with final grading and construction of underground utilities (such as storm water drainage), placement of base materials, compaction, and paving throughout. This work will cause additional damage to whatever archaeological resources may be present.

Construction, operation, and maintenance of the roadway may also have an impact on historic resources in the project area. Although the project will not remove any structures, the roadway (as well as other above grade projects which are intended to follow the road construction) may detract from the visual integrity of historic properties, creating what many consider discordant surroundings. As a result, this architectural survey uses an area of potential effect (APE) about 1.0 mile radius around the proposed roadway. This study, however, does **not** consider any future secondary impact of the project, including increased or expanded commercial, industrial, or residential development of this currently rural section of the South Carolina piedmont. Since the road being surveyed is an essential first step in the overall development of the Catawba Ridge tract, this additional development is a clear and foreseeable outcome of this road.

We were requested by Ms. Donna Hagins of D.H. Hagins and Associates to provide a proposal for the survey of this road on November 27 and authorization to conduct the survey was provided shortly thereafter. These investigations incorporated a review of the site files at the South Carolina Institute of Archaeology and Anthropology. As a result of that work, seven previously identified sites were found in the APE.

In addition, background work was also conducted at the South Carolina Department of Archives and History. Their GIS database was consulted for information on any NRHP buildings, districts, structures, sites, objects, or structure surveys in the study area. None were identified. Since the

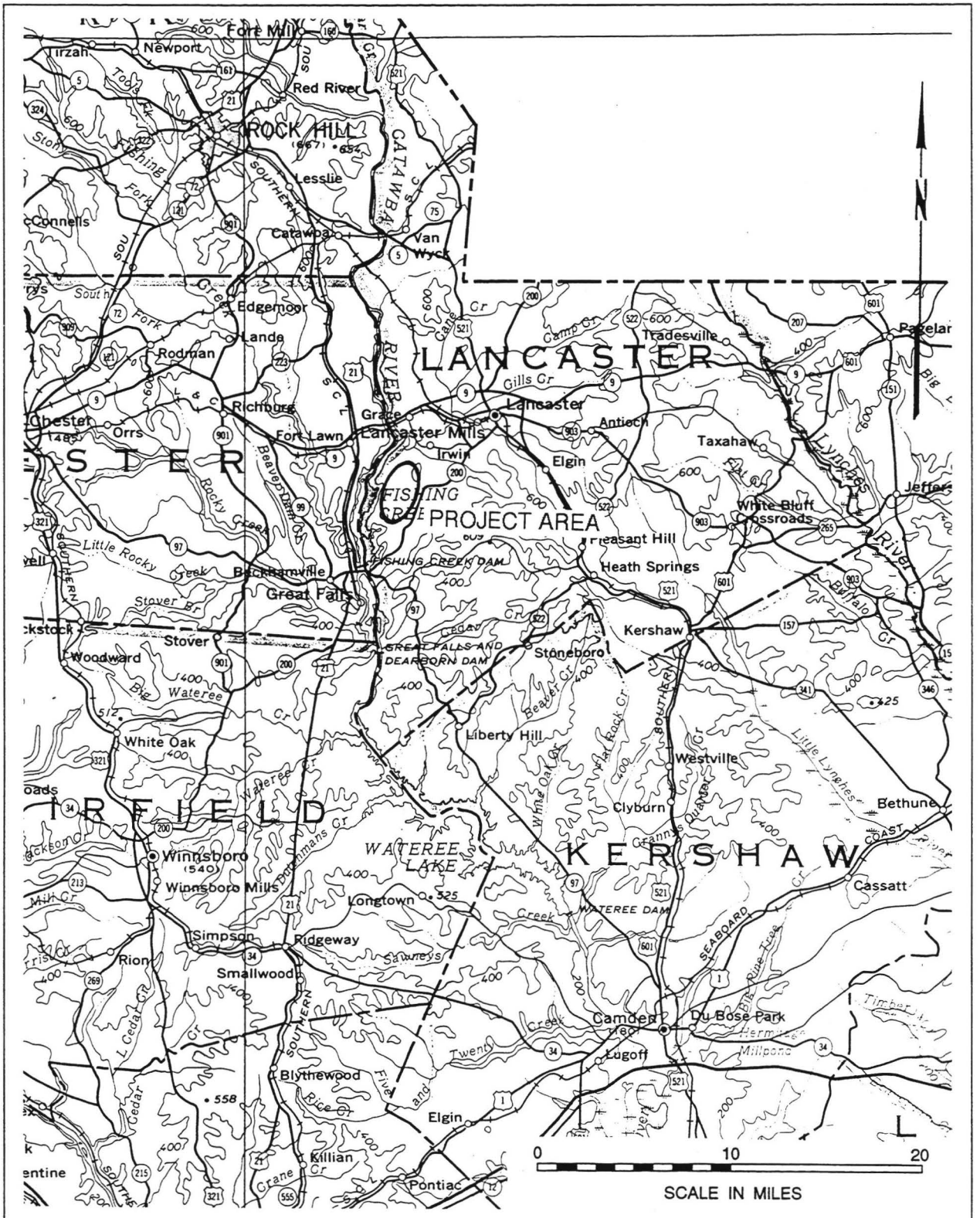


Figure 1. Project vicinity in Lancaster County (basemap is USGS South Carolina 1:500,000).

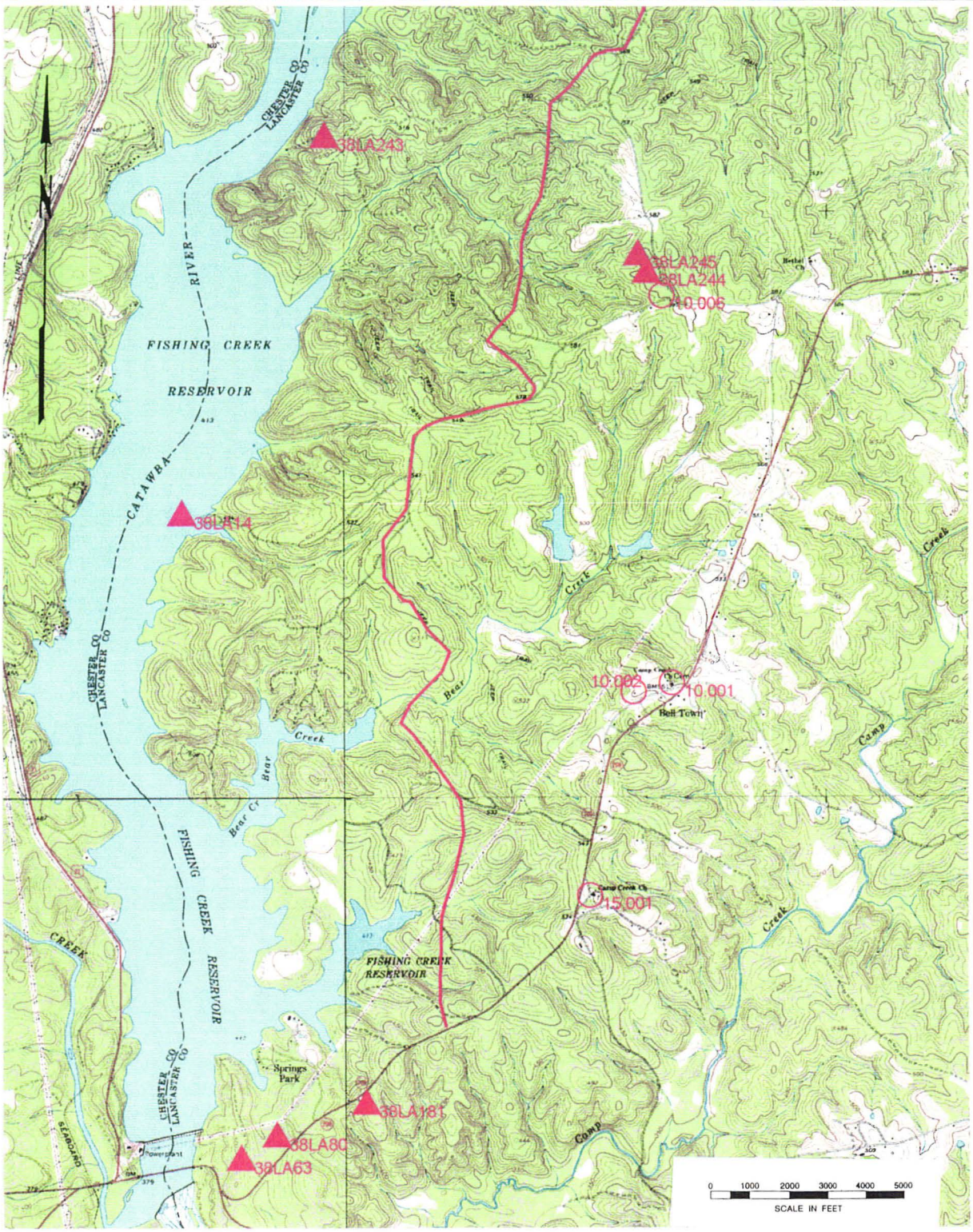


Figure 2. Project corridor, previously identified archaeological and architectural sites (basemap is Lancaster and Lancaster SE).

Figure 3. View of the project corridor, cleared, grubbed, and graded at the time of this survey. Note exposed red clay subsoil.

county-wide comprehensive historic sites survey is not included in their GIS database, it was necessary to examine the individual, hard copy maps for the project area for information. Four previously identified architectural resources, 15.001, 10.001, 10.002, and 10.006, were recorded in the APE (Schneider and Jackson 1986). This numbering system is different than that currently used by the SHPO, but it appears that these numbers have never been updated. Two of these (10.002 and 10.006) represent domestic structures, while the other two (15.001 and 10.001) were churches with associated cemeteries. All four of the sites were identified as not eligible for inclusion on the National Register.

A review of the site files at the South Carolina Institute of Archaeology and Anthropology revealed seven previously recorded sites in the general project area. 38LA14 is an underwater site about 4,000 feet west of the corridor in the Fishing Creek reservoir. It was apparently a historic family graveyard. Site 38LA63 was situated in the vicinity of the Fishing Creek Bridge widening. It was surveyed in 1979 and found not eligible. Site 38LA80 is a large prehistoric

Figure 4. View of road corridor showing clearing and grubbing, although no grading had taken place. Nevertheless, there was considerable erosion in corridor.

site which has been heavily collected by area relic hunters. It is situated about a mile southwest of the terminus of our survey corridor on SC 200. Site 38LA181 is situated about 3,000 feet southwest of the terminus on the south side of SC 200 and is another collector site. Recorded site 38LA243 is situated about 6,000 feet west of the corridor, just beyond the APE. This Early Archaic campsite has been previously determined not eligible by the SHPO. The two remaining sites, 38LA244 and 38LA245, include a small prehistoric site and a historic rock pile, respectively. Both were determined not eligible.

This background research suggests that a number of both Native American and also historic sites will likely be encountered in the project area. Others are likely already flooded by Fishing Creek (for which no comprehensive survey was ever conducted).

Archival and historical research was limited to a review of secondary sources available in the Chicora Foundation files, as well as research at the South Caroliniana Library and the Thomas Cooper Map Repository.

The archaeological survey was conducted on December 1-6 , 2000 by Mr. Tom Covington. The survey revealed thirteen previously unrecorded archaeological sites. Twelve of these sites, 38LA435, 38LA436, 38LA437, 38LA438, 38LA439, 38LA440, 38LA441, 38LA442, 38LA443, 38LA444,38LA445, and 38LA446 were recommended not eligible for the National Register, while 38LA447, a cemetery, was recommended potentially eligible.

The architectural survey of the corridor, designed to review and validate the findings of the previous county-wide survey as well as to determine if there were additional historic sites in the APE, was conducted on December 6. This revealed that two of the previously identified sites, 10.002 and 10.006, were no longer present and are presumed to have been destroyed. The two remaining sites, 10.001 and 15.001, were revisited and we concur with the previous finding of not eligible. Additional survey failed to identify any additional architectural sites which retain integrity.

Report production was conducted at Chicora's laboratories in Columbia, South Carolina from January 15 through February 2, 2001.

NATURAL ENVIRONMENT

Physiography and Geology

Lancaster County is located midway between the mountains and the coast. On the west are the counties of York, Chester, and Fairfield. To the north it is bordered by North Carolina. To the east lays Chesterfield County. To the south Lancaster County is bordered by Kershaw County. It is situated about 60 miles north of Columbia and 162 miles northwest of Charleston.

The county is located within two distinct physiographic provinces — the Piedmont Plateau and the Atlantic Coastal Plain (the northern part of which is known as the Sand Hills). All but the southeastern corner of the county is found within the Piedmont. Because of the Fall Line, the topography varies dramatically as one moves from the Sand Hills, which is characterized by moderately steep topography, into the Carolina Piedmont, which is characterized by steep to very steep topography. The Piedmont accounts for the majority of the land in the county, while the Coastal Plain Sand Hills cover less than one-fourth of the area. Elevations in the county range from about 230 feet above mean sea level (AMSL) in the southwest portion of the county to about 750 feet AMSL in the western portions (Rogers 1985:2). The entire west portion of the county along the Catawba River, consists of a hilly topography with differences in elevations as much as 230 feet.

The project area is found entirely in the Piedmont, about 8 miles southwest of the City of Lancaster. The project area consists of a series of ridges interspersed between side slopes and small drainages. Figure 5 illustrates the considerable topography present along the survey corridor. Elevations range from about 400 to 550 feet AMSL, with much of the corridor around 500 feet AMSL.

The nearest permanent water to the tract is Fishing Creek Reservoir, an impoundment of the Catawba River. The corridor, however, crosses a number of creeks, including Bear Creek at the south end and Rum Creek at the north end. Between these there are at least four intermittent drainages. It is likely that a ready water supply was readily available to both Native Americans and historic occupants in the area.

The Carolina Sand Hills extend somewhat intermittently across the midlands of South Carolina, just below the fall line, in an irregular belt 5 to 30 miles wide. The fall line itself was sculpted by the strong erosion of rivers and streams passing from the hard crystalline bedrocks of the Piedmont into the loose, unconsolidated sands of the Coastal Plain.

The majority of the rocks of the Piedmont are gneiss and schist, with some marble and quartzite (Hasselton 1974). Some less intensively metamorphosed rocks, such as slate, occur along the eastern part of the province from southern Virginia into Georgia. This area, known as the Slate Belt, is characterized by slightly lower ground with wider river valleys. The Slate Belt has been favored for reservoir sites (Johnson 1970), as well as prehistoric occupation (see Coe 1964). Lancaster County's Piedmont soils are weathered from argillites rich in silica and alumina. Other soils are formed in saprolite that weathered from crystalline rocks and "Carolina slates". Soils from the river floodplains formed in sediment that washed from the uplands of the Piedmont province.

Soils

From a soils perspective the Piedmont tends to be characterized by well-drained loams found on 2 to 25% slopes and ridges. Well drained to moderately well drained medium to fine textured soils with slightly compacted subsoils are found at the base of these slopes, although still on gently sloping topography. Excessively drained soils with loamy, compact subsoils are typically found on positions where the slopes break to meet the streams. Overall, inherent fertility and organic content

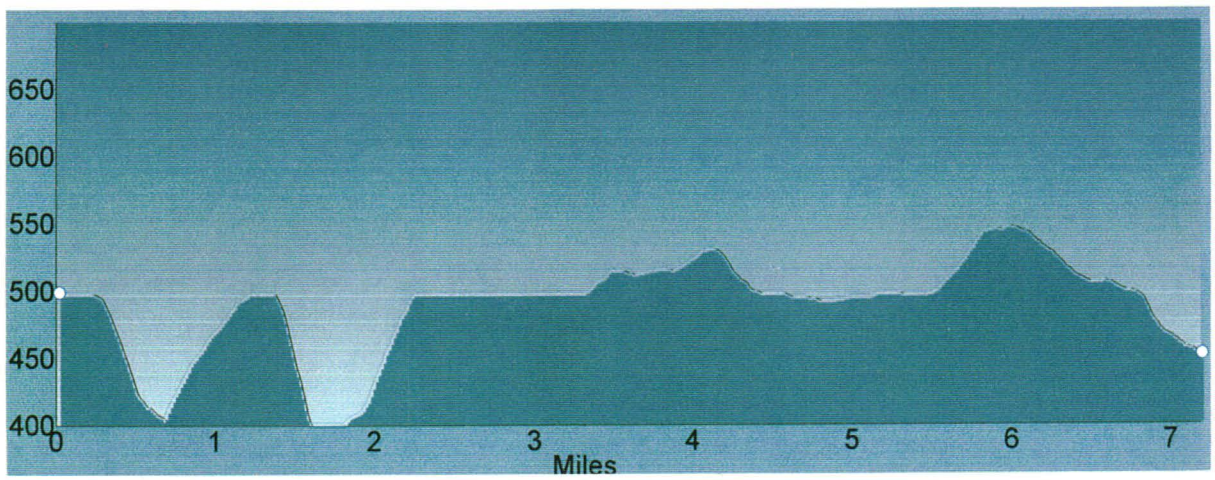


Figure 5. Cross section of the corridor from south (left hand) to north (right hand).

of the soils are fairly low, making cultivation difficult in the Piedmont.

In this area of Lancaster County, the soils are broadly classified as the Cecil-Davidson association. These soils are well drained and typically have a loamy subsoil. No Davidson soils were found on the survey corridor and the area was predominantly Cecil sandy loams and Enon loams. These are well drained soils that are formed from the crystalline rocks, granite, gneiss, and schist, of the Upper Piedmont.

Cecil sandy loams exhibit an A horizon of light yellowish brown (10YR6/4) fine sandy loams to a depth of about 0.4 foot, under which is a red clay loam (2.5YR5/6) to a depth of about 4.8 feet. Enon loams have an A horizon of dark brown loam (10YR4/3) to about 0.3 foot, over a yellowish brown (10YR5/6) to about 1.6 feet in depth.

The northern section of the corridor also included Tatum loams, which consist of a light brown (7.5YR6/4) loam to 0.2 foot over a reddish brown (5YR5/4) sandy clay loam that extends to about 2.2 feet. Georgeville silty loams are also present. These exhibit an A horizon of yellowish brown (10YR5/4) silty loam to 0.3 foot with a subsoil of yellowish red (5YR5/8) silty loam up to 3.8 feet.

The corridor also showed evidence of Chewacla silty loam which is a poorly drained dark brown (10YR4/3) silty loam to 0.5 foot, overlying a dark yellowish brown (10YR4/4) loam which can extend up to 6.0 feet in depth. These soils are found in the bottoms and depressions, typically on the drainageways crossed by the survey corridor.

The topography of the project area suggests that it has probably gone through cycles of soil erosion and deposition, with erosion occurring during logging and cultivation, while soils likely built up during periods of forestation. In fact, the 1934 South Carolina Erosion Survey by M.W. Lowry found that this portion of Lancaster County was classified as "destroyed by gullying" (Lowry 1934). Trimble, in his erosion study of the Southern Piedmont, reported that this area of Lancaster County had lost up to a foot of soil through erosion in the nineteenth and early twentieth centuries (Trimble 1974:3). It is part of the area classified by Trimble as having high antebellum erosion land use with postbellum continuation and belonging to his Region III — the Cotton Plantation Area (Trimble 1974:15).

Furthermore, logging in the Piedmont will result in the loss of nearly 0.36 tons of soil per acre per year and mechanical site preparation, perhaps used in the mid-1950s to convert the agricultural fields back to woods, might have resulted in the loss of 6.67 tons of soil per acre per year (U.S. Department of Agriculture

1983:25).

The significance of these observations can be seen in the survey corridor today. Throughout red clay is exposed and only vague and occasional areas of remnant A horizon soils were identified. The clearing and grubbing has been so aggressive that shovel testing was just a formality — the surface visibility was far superior to any shovel testing conducted on the corridor centerline.

Despite the high threat of erosion and lack of sufficient fertility of the soil, the South Carolina Department of Agriculture, Commerce, and Immigration, in 1907, still maintained that "elevated flats can be brought to a high state of fertility by proper methods of farming" and that the soils are "superior for peanuts, sweet potatoes, sorghum, watermelons, and the staples, oats, cotton, corn and some wheat" (Watson 1907:255). Lancaster County boasted of only one cotton seed oil mill — about on par with the single mills operating in surrounding Chester, Chesterfield, Fairfield, Kershaw, and Sumter counties (Watson 1907:269, 288). By 1909 there was a little more recognition that the soils, particularly the Cecil Series, were "liable to damage from washing and gullying" (U.S. Department of Agriculture 1904:180).

Climate

Elevation, latitude, and distance from the coast work together to affect the climate of South Carolina. In addition, the more westerly mountains block or moderate many of the cold air masses that flow across the state from west to east. Even the very cold air masses which cross the mountains are warmed somewhat by compression before they descend on the Piedmont and Sand Hills.

The climate of Lancaster County is temperate. The average winter temperature of 56°F and the average summer temperature of 89°F confirm the generally mild climate for winter, but hot and humid temperatures for the summer. There are 46 inches of annual precipitation, which is less than in surrounding counties. About 22 inches of rain occur during the growing season, with periods of drought not uncommon in the summer months. As Hilliard illustrates, these droughts tended to be localized and tended to occur several years in a row, increasing the hardship on those attempting to recover from the previous year's crop failure (Hilliard 1984:16). Perhaps the best wide-scale example of this was the drought of 1845, which caused a series of very serious grain and food shortages throughout the state. Rogers (1974:124) mentions two droughts in the Lancaster area during the first half of the twentieth century.

The average growing season is about 225 days, although early freezes in the fall and late frosts in the spring can reduce this period by as much as 30 or more days (Rogers 1974:125). Consequently, most cotton planting, for example, did not take place until early May, avoiding the possibility that a late frost would damage the young seedlings.

Floristics

Piedmont forests generally belong to the Oak-Hickory Formation as established by Braun (1950). The project area is composed of medium tall to tall forests of broadleaf deciduous and needleleaf evergreen trees (Küchler 1964). The major components of this ecosystem include hickory, shortleaf pine, loblolly pine, white oak, and post oak.

The corridor exhibits considerable ecological diversity, largely because of the proximity of a variety of creeks and drainages. The amount of wildlife in an area depends on the availability of food, water, and proper cover. Keeping this in mind, the area has surroundings that are attractive to a diverse range of mammals, including deer, opossum, and raccoon. However, it should be cautioned that the area has undergone extensive alterations through time, so that the vegetation and wildlife present today likely bares little resemblance to the natural vegetation and ecology of the region. Moreover, the recent clear cutting of the corridor has significantly altered the environment of the study area. Throughout red clay is exposed and the primary tree cover removed was pine, likely planted as different tracts were taken out of cultivation.

PREHISTORIC AND HISTORIC BACKGROUND

Previous Research

In the past, Lancaster had received relatively little archaeological attention. In 1991, Derting and his colleagues list only 34 reports associated with the county, with 29 of these (or 85%) representing highway, transmission line, reservoir, or sewer surveys (Derting et al. 1991). Although dated, this indicates that the attention has been focused on relatively narrow, constrained corridors, with only minor attention devoted to the area's rich prehistoric and protohistoric resources.

Seven archaeological sites had been previously identified in the project area. Sites 38LA243, 38LA244, 38LA80, 38LA63, and 38LA181 are all prehistoric lithic scatters, while 38LA245 is reported to be a historic rock pile. No work has ever been done on site 38LA14, a historic cemetery, and the location is questionable. All that is known of this site is an eye witness account from the 1930's that a burial ground was seen in the middle of some farm land. None of these sites, with the exception of 38LA14, were recommended as eligible for the National Register of Historic Places.

Prehistoric Overview

Overviews for South Carolina's prehistory, while differing in lengths and complexity, are available in virtually every compliance report prepared. There are, in addition, some "classic" sources well worth attention, such as Joffre Coe's *Formative Cultures* (Coe 1964), as well as some new general overviews (such as Sassaman et al. 1990 and Goodyear and Hanson 1989). Also extremely helpful, perhaps even essential, are a handful of recent local synthetic statements, such as that offered by Sassaman and Anderson (1994) for the Middle and Late Archaic and by Anderson et al. (1992) for the Paleoindian and Early Archaic. Only a few of the many sources are included in this study, but they should be adequate to give the reader a "feel" for the area and help establish a context for the various sites identified in the study areas. For those desiring a more general synthesis, perhaps the most readable and well balanced is that offered by Judith Bense (1994), *Archaeology of the Southeastern United States: Paleoindian to World War I.*

Paleoindian Period

The Paleoindian Period, most commonly dated from about 12,000 to 10,000 B.P., is evidenced by basally thinned, side-notch projectile points; fluted, lanceolate projectile points; side scrapers; end scrapers; and drills (Coe 1964; Michie 1977; Williams 1965). Oliver (1981, 1985) has proposed to extend the Paleoindian dating in the North Carolina Piedmont to perhaps as early as 14,000 B.P., incorporating the Hardaway Side-Notched and Palmer Corner-Notched types, usually accepted as Early Archaic, as representatives of the terminal phase. This view, verbally suggested by Coe for a number of years, has considerable technological appeal.[1] Oliver suggests a continuity from the Hardaway Blade through the Hardaway-Dalton to the Hardaway Side-Notched, eventually to the Palmer Side-Notched (Oliver 1985:199-200). While convincingly argued, this approach is not universally accepted.

The Paleoindian occupation, while widespread, does not appear to have been intensive. Artifacts are most frequently found along major river drainages, which Michie interprets to support the concept of an

[1] While never discussed by Coe at length, he did observe that many of the Hardaway points, especially from the lowest contexts, had facial fluting or thinning which, "in cases where the side-notches or basal portions were missing, . . . could be mistaken for fluted points of the Paleo-Indian period" (Coe 1964:64). While not an especially strong statement, it does reveal the formation of the concept. Further insight is offered by Ward's (1983:63) all too brief comments on the more recent investigations at the Hardaway site (see also Daniel 1992).

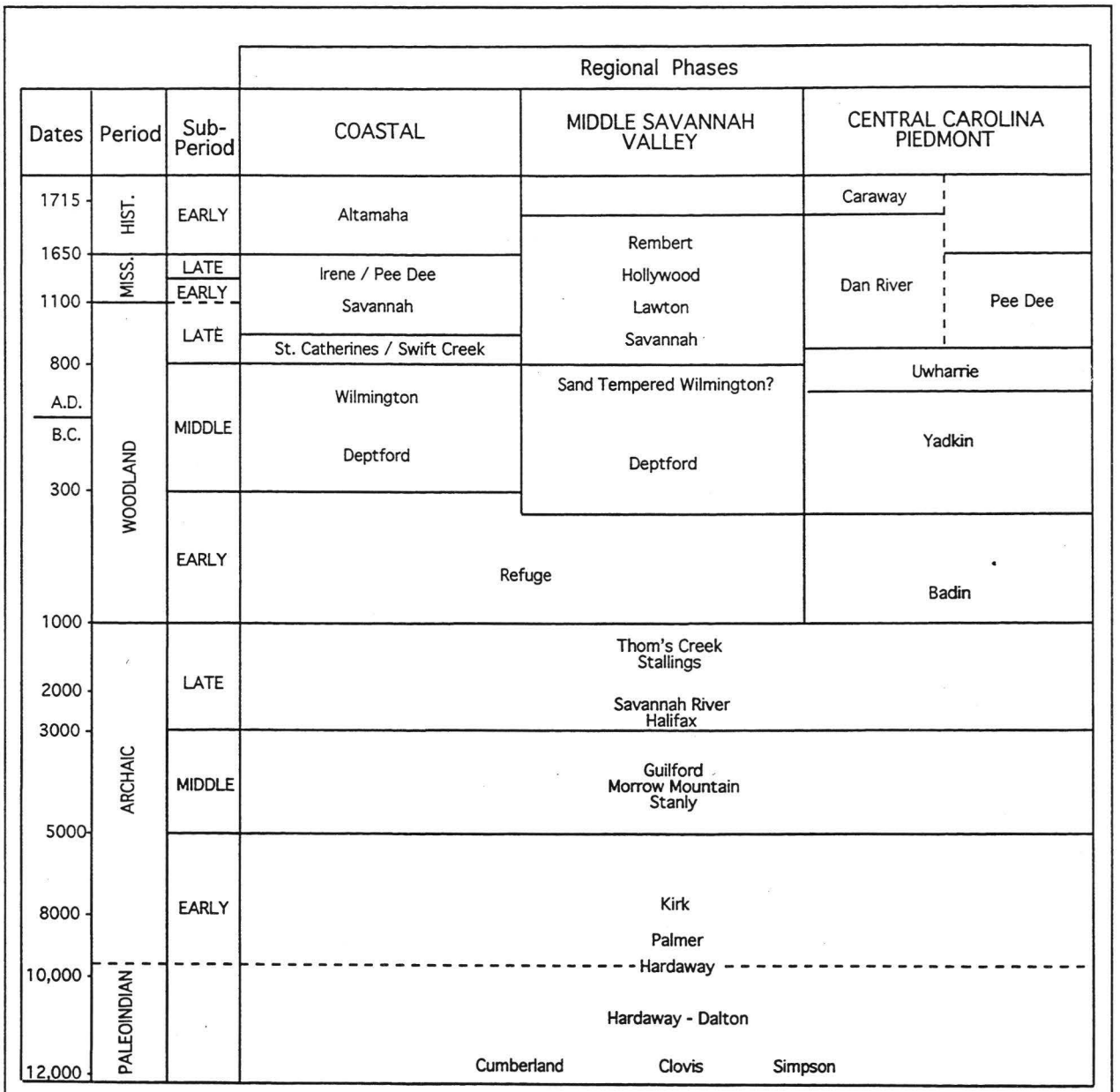


Figure 6. A generalized cultural sequence for South Carolina.

economy "oriented toward the exploitation of now extinct mega-fauna" (Michie 1977:114). Survey data for Paleoindian tools, most notably fluted points, is somewhat dated, but has been summarized by Charles and Michie (1992). They reveal a widespread distribution across the state (see also Anderson 1992b: Figure 5.1) with at least several concentrations relating to intensity of collection or activity. What is clear is that points are found fairly far removed from the origin of the raw material. Charles and Michie suggest that this may "imply a geographically extensive settlement system" (Charles and Michie 1992:247).

Although data are sparse, one of the more attractive theories that explains the widespread distribution of Paleoindian sites is the model tracking

the replacement of a high technology forager (or HTF) adaptation by a "progressively more generalized band/microband foraging adaption" accompanied by increasingly distinct regional traditions (perhaps reflecting movement either along or perhaps even between river drainages) (Anderson 1992b:46).

Distinctive projectile points include lanceolates such as Clovis, Dalton, perhaps the Hardaway, and Big Sandy (Coe 1964; Phelps 1983; Oliver 1985). A temporal sequence of Paleoindian projectile points was proposed by Williams (1965:24-51), but according to Phelps (1983:18) there is little stratigraphic or chronometric evidence for it. While this is certainly true, a number of authors, such as Anderson (1992a) and Oliver (1985) have assembled impressive data sets. We are inclined to believe that while often not conclusively proven by stratigraphic excavations (and such proof may be an unreasonable expectation), there is a large body of circumstantial evidence. The weight of this evidence tends to provide considerable support.

Unfortunately, relatively little is known about Paleoindian subsistence strategies, settlement systems, or social organization (see, however, Anderson 1992b for an excellent overview and synthesis of what is known). Generally, archaeologists agree that the Paleoindian groups were at a band level of society, were nomadic, and were both hunters and foragers. While population density, based on isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30).

Archaic Period

The Archaic Period, which dates from 10,000 to 3,000 B.P.[2], does not form a sharp break with the Paleoindian Period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. Associated with this is a reliance on a broad spectrum of small mammals, although the white tailed deer was likely the most commonly exploited animal. Archaic period assemblages, exemplified by corner-notched and broad-stemmed projectile points, are fairly common, perhaps because the swamps and drainages offered especially attractive ecotones.

Many researchers have reported data suggestive of a noticeable population increase from the Paleoindian into the Early Archaic. This has tentatively been associated with a greater emphasis on foraging. Diagnostic Early Archaic artifacts include the Kirk Corner Notched point. As previously discussed, Palmer points may be included with either the Paleoindian or Archaic period, depending on theoretical perspective. As the climate became hotter and drier than the previous Paleoindian period, resulting in vegetational changes, it also affected settlement patterning as evidenced by a long-term Kirk phase midden deposit at the Hardaway site (Coe 1964:60). This is believed to have been the result of a change in subsistence strategies.

Settlements during the Early Archaic suggest the presence of a few very large, and apparently intensively occupied, sites which can best be considered

[2] The terminal point for the Archaic is no clearer than that for the Paleoindian and many researchers suggest a terminal date of 4,000 B.P. rather than 3,000 B.P. There is also the question of whether ceramics, such as the fiber-tempered Stallings ware, will be included as Archaic, or will be included with the Woodland. Oliver, for example, argues that the inclusion of ceramics with Late Archaic attributes "complicates and confuses classification and interpretation needlessly" (Oliver 1981:20). He comments that according to the original definition of the Archaic, it "represents a preceramic horizon" and that "the presence of ceramics provides a convenient marker for separation of the Archaic and Woodland periods (Oliver 1981:21). Others would counter that such an approach ignores cultural continuity and forces an artificial, and perhaps unrealistic, separation. Sassaman and Anderson (1994:38-44), for example, include Stallings and Thom's Creek wares in their discussion of "Late Archaic Pottery." While this issue has been of considerable importance along the Carolina and Georgia coasts, it has never affected the Piedmont, which seems to have embraced pottery far later, well into the conventional Woodland period. The importance of the issue in the Sandhills, unfortunately, is not well known.

base camps. Hardaway might be one such site. In addition, there were numerous small sites which produce only a few artifacts — these are the "network of tracks" mentioned by Ward (1983:65). The base camps produce a wide range of artifact types and raw materials which has suggested to many researchers long-term, perhaps seasonal or multi-seasonal, occupation. In contrast, the smaller sites are thought of as special purpose or foraging sites (see Ward 1983:67).

Middle Archaic (8,000 to 6,000 B.P.) diagnostic artifacts include Morrow Mountain, Guilford, Stanly and Halifax projectile points. Much of our best information on the Middle Archaic comes from sites investigated west of the Appalachian Mountains, such as the work by Jeff Chapman and his students in the Little Tennessee River Valley (for a general overview see Chapman 1977, 1985a, 1985b). There is good evidence that Middle Archaic lithic technologies changed dramatically. End scrapers, at times associated with Paleoindian traditions, are discontinued, raw materials tend to reflect the greater use of locally available materials, and mortars are initially introduced. Associated with these technological changes there seem to also be some significant cultural modifications. Prepared burials begin to more commonly occur and storage pits are identified. The work at Middle Archaic river valley sites, with their evidence of a diverse floral and faunal subsistence base, seems to stand in stark contrast to Caldwell's Middle Archaic "Old Quartz Industry" of Georgia and the Carolinas, where axes, choppers, and ground and polished stone tools are very rare.

Among the most common of all Middle Woodland artifacts is the Morrow Mountain Stemmed projectile point. Originally divided into two varieties by Coe (1964:37,43) based primarily on the size of the blade and the stem. Morrow Mountain I points had relatively small triangular blades with short, pointed stems. Morrow Mountain II points had longer, narrower blades with long, tapered stems. Coe suggested a temporal sequence from Morrow Mountain I to Morrow Mountain II. While this has been rejected by some archaeologists, who suggest that the differences are entirely related to the life-stage of the point, the debate is far from settled and Coe has considerable support for his scenario.

The Morrow Mountain point is also important in our discussions since it represents a departure from the Carolina Stemmed Tradition. Coe has suggested that the groups responsible for the Middle Archaic Morrow Mountain (and the later Guilford points) were intrusive ("without any background" in Coe's words) into the North Carolina Piedmont, from the west, and were contemporaneous with the groups producing Stanly points (Coe 1964:122-123; see also Phelps 1983:23). Phelps, building on Coe, refers to the Morrow Mountain and Guilford as the "Western Intrusive horizon." Sassaman (1995) has recently proposed a scenario for the Morrow Mountain groups which would support this west-to-east time-transgressive process. Abbott and his colleagues, perhaps unaware of Sassaman's data, dismiss the concept, commenting that the shear distribution and number of these points "makes this position wholly untenable" (Abbott et al. 1995:9).

The controversy surrounding Morrow Mountain also includes its posited date range. Coe (1964:123) did not expect the Morrow Mountain to predate 6500 B.P., yet more recent research in Tennessee reveals a date range of about 7500 to 6500 B.P. Sassaman and Anderson (1994:24) observe that the South Carolina dates have never matched the antiquity of their more western counterparts and suggest continuation to perhaps as late as 5500 B.P. In fact they suggest that even later dates are possible since it can often be difficult to separate Morrow Mountain and Guilford points.

A recently defined point is the MALA. The term is an acronym standing for Middle Archaic and Late Archaic, the strata in which these points were first encountered at the Pen Point site (38BR383) in Barnwell County, South Carolina (Sassaman 1985). These stemmed and notched lanceolate points were originally found in a context suggesting a single-episode event with variation not based on temporal variation. The original discussion was explicitly worded to avoid application of a typology, although as Sassaman and Anderson (1994:27) note, the "type" has spread into more common usage. There are possible connections with both the Halifax points of North Carolina and the Benton points of the middle Tennessee River valley, while the "heartland" for the MALA appears confined to

the lower middle Coastal Plain of South Carolina.

The available information has resulted in a variety of competing settlement models. Some argue for increased sedentism and a reduction of mobility (see Goodyear et al. 1979:111). Ward argues that the most appropriate model is one which includes relatively stable and sedentary hunters and gatherers "primarily adapted to the varied and rich resource base offered by the major alluvial valleys" (Ward 1983:69). While he recognizes the presence of "inter-riverine" sites, he discounts explanations which focus on seasonal rounds, suggesting "alternative explanations . . . [including] a wide range of adaptive responses." Most importantly, he notes that:

> the seasonal transhumance model and the sedentary model are opposite ends of a continuum, and in all likelihood variations on these two themes probably existed in different regions at different times throughout the Archaic period (Ward 1983:69).

Others suggest increased mobility during the Archaic (see Cable 1982). Sassaman (1983) has suggested that the Morrow Mountain phase people had a great deal of residential mobility, based on the variety of environmental zones they are found in and the lack of site diversity. The high level of mobility, coupled with the rapid replacement of these points, may help explain the seemingly large numbers of sites with Middle Archaic assemblages. Curiously, the later Guilford phase sites are not as widely distributed, perhaps suggesting that only certain micro-environments were used (cf. Ward [1983:68-69] who would likely reject the notion that substantially different environmental zones are, in fact, represented).

Recently Abbott et al. argued for a combination of these models, noting that the almost certain increase in population levels probably resulted in a contraction of local territories. With small territories there would have been significantly greater pressure to successfully exploit the limited resources by more frequent movement of camps. They discount the idea that these territories could have been exploited from a single base camp without horticultural technology. Abbott and his colleagues conclude, "increased residential mobility under such conditions may in fact represent a common stage in the development of sedentism" (Abbott et al. 1995:9).

From excavations at a Sandhills site in Chesterfield County, South Carolina, Gunn and his colleague (Gunn and Wilson 1993) offer an alternative model for Middle Archaic settlement. He accepts that the uplands were desiccated from global warming, but rather than limiting occupation, this environmental change made the area more attractive for residential base camps. Gunn and Wilson suggest that the open, or fringe, habitat of the upland margins would have been attractive to a wide variety of plant and animal species.

The Late Archaic, usually dated from 6,000 to 3,000 or 4,000 B.P., is characterized by the appearance of large, square stemmed Savannah River projectile points (Coe 1964). These people continued to intensively exploit the uplands much like earlier Archaic groups with, the bulk of our data for this period coming from the Uwharrie region in North Carolina.

One of the more debated issues of the Late Archaic is the typology of the Savannah River Stemmed and its various diminutive forms. Oliver, refining Coe's (1964) original Savannah River Stemmed type and a small variant from Gaston (South 1959:153-157), developed a complete sequence of stemmed points that decrease uniformly in size through time (Oliver 1981, 1985). Specifically, he sees the progression from Savannah River Stemmed to Small Savannah River Stemmed to Gypsy Stemmed to Swannanoa from about 5000 B.P. to about 1,500 B.P. He also notes that the latter two forms are associated with Woodland pottery.

This reconstruction is still debated with a number of archaeologists expressing concern with what they see as typological overlap and ambiguity. They point to a dearth of radiocarbon dates and good excavation contexts and at the same time they express concern with the application of this typology outside the North Carolina Piedmont (see, for a synopsis, Sassaman and Anderson 1990:158-162, 1994:35).

In addition to the presence of Savannah River points, the Late Archaic also witnessed the introduction of steatite vessels (see Coe 1964:112-113; Sassaman

1993), polished and pecked stone artifacts, and grinding stones. Some also include the introduction of fiber-tempered pottery about 4000 B.P. in the Late Archaic (for a discussion see Sassaman and Anderson 1994:38-44). This innovation is of special importance along the Georgia and South Carolina coasts, but seems to have had only minimal impact in the uplands of South or North Carolina.

There is evidence that during the Late Archaic the climate began to approximate modern climatic conditions. Rainfall increased resulting in a more lush vegetation pattern. The pollen record indicates an increase in pine which reduced the oak-hickory nut masts which previously were so widespread. This change probably affected settlement patterning since nut masts were now more isolated and concentrated. From research in the Savannah River valley near Aiken, South Carolina, Sassaman has found considerable diversity in Late Archaic site types with sites occurring in virtually every upland environmental zone. He suggests that this more complex settlement pattern evolved from an increasingly complex socio-economic system. While it is unlikely that this model can be simply transferred to the Sandhills of South Carolina without an extensive review of site data and micro-environmental data, it does demonstrate one approach to understanding the transition from Archaic to Woodland.

Woodland Period

As previously discussed, there are those who see the Woodland beginning with the introduction of pottery. Under this scenario the Early Woodland may begin as early as 4,500 B.P. and continue to about 2,300 B.P. Diagnostics would include the small variety of the Late Archaic Savannah River Stemmed point (Oliver 1985) and pottery of the Stallings and Thoms Creek series. These sand tempered Thoms Creek wares are decorated using punctations, jab-and-drag, and incised designs (Trinkley 1976). Also potentially included are Refuge wares, also characterized by sandy paste, but often having only a plain or dentate-stamped surface (Waring 1968). Others would have the Woodland beginning about 3,000 B.P. and perhaps as late as 2,500 B.P. with the introduction of pottery which is cord-marked or fabric-impressed and suggestive of influences from northern cultures.

There remains, in South Carolina, considerable ambiguity regarding the pottery series found in the Sandhills and their association with coastal plain and piedmont types. The earliest pottery found at many sites may be called either Deptford or Yadkin, depending on the research or their inclination at any given moment.

The Deptford phase, which dates from 3050 to 1350 B.P., is best characterized by fine to coarse sandy paste pottery with a check stamped surface treatment. The Deptford settlement pattern involves both coastal and inland sites.

Inland sites such as 38AK228-W, 38LX5, 38RD60, and 38BM40 indicate the presence of an extensive Deptford occupation on the Fall Line and the Inner Coastal Plain/Sand Hills, although sandy, acidic soils preclude statements on the subsistence base (Anderson 1979; Ryan 1972; Trinkley 1980). These interior or upland Deptford sites, however, are strongly associated with the swamp terrace edge, and this environment is productive not only in nut masts, but also in large mammals such as deer. Perhaps the best data concerning Deptford "base camps" comes from the Lewis-West site (38AK228-W), where evidence of abundant food remains, storage pit features, elaborate material culture, mortuary behavior, and craft specialization has been reported (Sassaman et al. 1990:96-98; see also Sassaman 1993 for similar data recovered from 38AK157).

Further to the north and west, in the Piedmont, the Early Woodland is marked by a pottery type defined by Coe (1964:27-29) as Badin.[3] This pottery is identified as having very fine sand in the paste with an occasional pebble. Coe identified cord-marked, fabric-marked, net-impressed, and plain surface finishes.

[3] The ceramics suggest clear regional differences during the Woodland which seem to only be magnified during the later phases. Ward (1983:71), for example, notes that there "marked distinctions" between the pottery from the Buggs Island and Gaston Reservoirs and that from the south-central Piedmont.

Beyond this pottery little is known about the makers of the Badin wares and relatively few of these sherds are reported from South Carolina sites.

Somewhat more information is available for the Middle Woodland, typically given the range of about 2,300 B.P. to 1,200 B.P. In the Piedmont and even into the Sand Hills, the dominant Middle Woodland ceramic type is typically identified as the Yadkin series. Characterized by a crushed quartz temper the pottery includes surface treatments of cord-marked, fabric-marked, and a very few linear check-stamped sherds (Coe 1964:30-32). It is regrettable that several of the seemingly "best" Yadkin sites, such as the Trestle site (31An19) explored by Peter Cooper (Ward 1983:72-73), have never been published.

Yadkin ceramics are associated with medium-sized triangular points, although Oliver (1981) suggests that a continuation of the Piedmont Stemmed Tradition to at least 1650 B.P. coexisted with this Triangular Tradition. The Yadkin in South Carolina has been best explored by research at 38SU83 in Sumter County (Blanton et al. 1986) and at 38FL249 in Florence County (Trinkley et al. 1993)

In some respects the Late Woodland (1,200 B.P. to 400 B.P.) may be characterized as a continuation of previous Middle Woodland cultural assemblages. While outside the Carolinas there were major cultural changes, such as the continued development and elaboration of agriculture, the Carolina groups settled into a lifeway not appreciably different from that observed for the previous 500-700 years. From the vantage point of the Middle Savannah Valley Sassaman and his colleagues note that, "the Late Woodland is difficult to delineate typologically from its antecedent or from the subsequent Mississippian period" (Sassaman et al. 1990:14). This situation would remain unchanged until the development of the South Appalachian Mississippian complex (see Ferguson 1971).

Historic Overview

Like many South Carolina counties, Lancaster lacks anything that might be called a thorough history. Most of the available documents focus on genealogical research associated with various families or cemeteries and the *Historic Site Survey, Lancaster County* prepared by the Catawba Regional Planning Council in 1976 offers only a brief introduction to the history of the region.

Mills (1972 [1826]:595) notes that the earliest settlement in Lancaster was by immigrants from Pennsylvania and Virginia about 1745 at a place called Waxhaws, near the Catawba settlements. While sheltered by the Catawba, settlement to the west, toward the Cherokee lands was slow and the area was not intensively settled until after 1761 – after the series of three "wars" waged by South Carolina on the Cherokee (see Hatley 1993). Although the area was largely claimed by the Catawba, this created little concern and Mills noted that the Waxhaw settlers became "rid of their powerful and dangerous neighbors" through a smallpox epidemic about 1750 (Mills 1972 [1826]:595).

Like much of the upcountry, the American Revolution was characterized by a bloody series of partisan skirmishes in Lancaster. On May 29, 1780 the Battle of the Waxhaws, also known as Buford's Massacre, occurred near the City of Lancaster. A regiment of Virginians, under Colonel Abraham Buford, had been on their way to reinforce patriot forces at Charleston when they heard that the city had fallen and turned back. They were intercepted by Colonel Banastre Tarleton, whose troops slaughtered the Americans as they attempted to surrender. This exceptional cruelty ended the passiveness of many backcountry settlers and began an aggressive backcountry campaign on both sides. Additional battles were fought at Hanging Rock (on July 30, 1780 and August 6, 1780) where the Americans successfully captured British supplies and at Waxhaw Church (on April 10, 1781).

After the Revolution, settlement in the area grew slowly, primarily as small communities were established along both overland trails and along the navigable rivers. Originally part of the Camden District, Lancaster was created in 1785, encompassing what are today Lancaster and Kershaw counties. Kershaw was split off only six years later, in 1791.

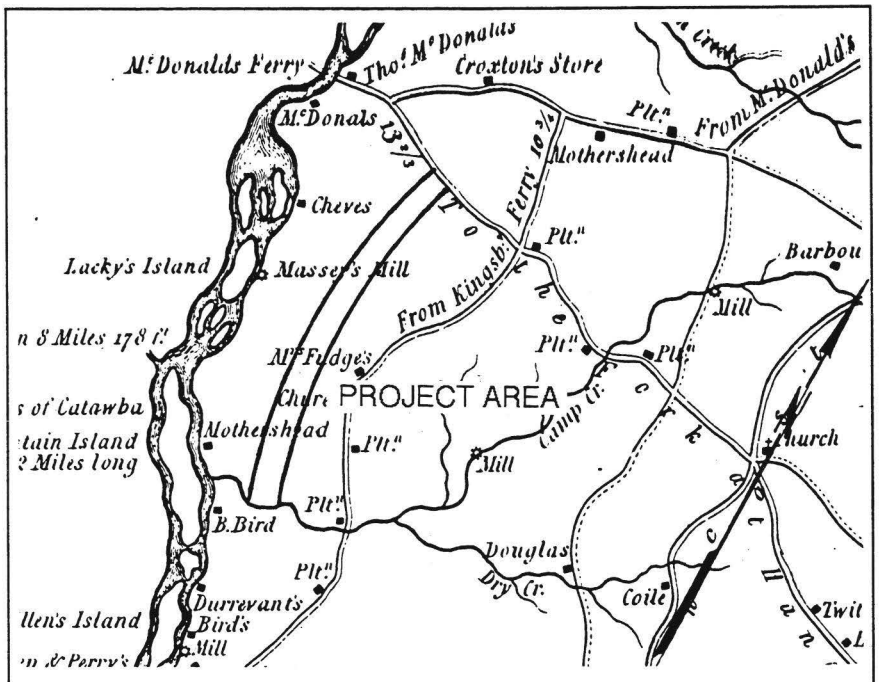


Figure 7. Portion of Mills' *Atlas* showing the project area ca. 1825.

By the 1820s Lancaster's main town, Lancasterville, boasted 30 buildings and about 260 residents. Among the more impressive buildings were the court house, a jail (both built in 1823), and what Mills described as a "handsome brick academy" (Mills 1972 [1826]:597). County-wide there were 5848 whites and 4473 African American slaves in 1820 – clear evidence of the importance of cotton, especially along the Catawba River. Cotton, of course, was greatly promoted in the South Carolina piedmont by the invention of the cotton gin in 1790.

While the history focuses on cotton, there was another side of equal interest:

> Lancaster's history has been tinged with many religious vagaries, including legal recognition of witchcraft, and the Waxhaw Revival. Early in the nineteenth century a poor girl of Lancaster testified that Barbara Powers had converted her into a horse and had ridden her so incessantly that her health had suffered. The case was thrown out of court. At abut the same time the Waxhaw Revival, offshoot of the Nationwide Great Revival, threw many of the county's staid Presbyterians into trances and ecstatic shouting (Writers' Program Work Projects Administration 1941:310).

In the early nineteenth century the vicinity of this study is situated about midway between the river (and its association with various mills) and the interior road network (where most historic sites were located (see Figure 7).

By 1850 the white population had stabilized at 5857 while the African American slave population had increased to 5014 (DeBow 1854:302). Lancaster ranked 18th in cotton production, with 8661 bales. This was far less than produced by neighboring York, Chester, Fairfield, or even Kershaw, but surpassed the production of Chesterfield County to the east, again documenting Lancaster's division between profitable upland cotton farms and the subsistence farms of the sand region. When the agricultural statistics are examined, Lancaster proves to be a leader in none of the various categories.

Lancaster was largely quiet during the Civil War until Sherman's troops cut across the lower edge of the county on March 1, 1865. This undoubtedly caused considerable terror in the local community, as well as considerable loss of property. It was, nevertheless, about 5 to 10 miles south of the project area.

In the aftermath of the Civil War, Lancaster County made efforts to diversify into textiles, but was never as successful as its neighbor, Chester County. In fact, by 1907 there was only one mill in the County — the Lancaster Cotton Mills, operated by LeRoy Springs — which had been formed in 1895. While not

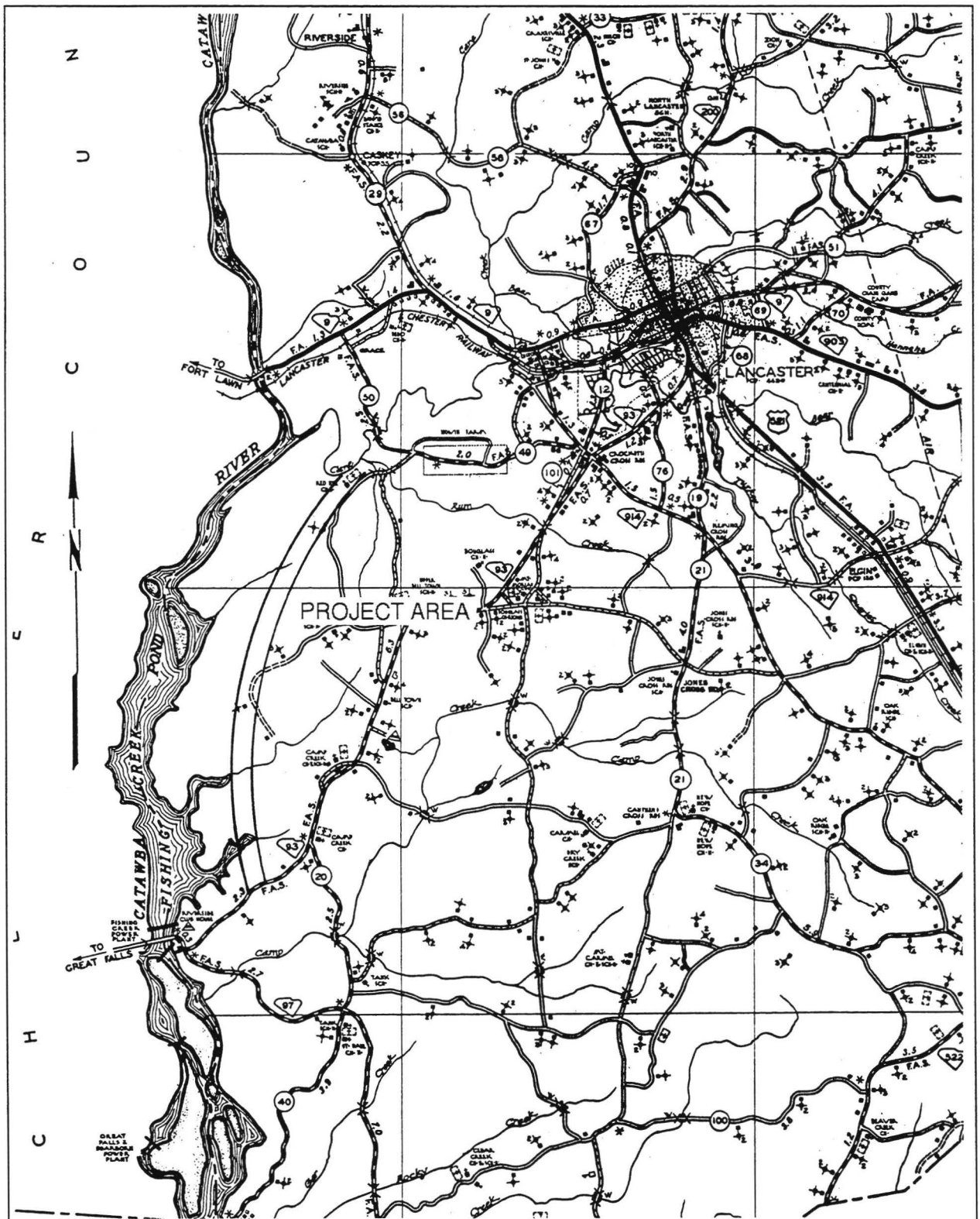


Figure 8. Approximate corridor location on the 1939 *General Highway and Transportation Map of Lancaster County*.

abundant, the Lancaster operation was among the larger concerns in South Carolina, tied for fifth place for capital stock value and seventh in cotton consumed.

Nevertheless, farming continued to dominate the local economy. Although nearly 50,000 acres were planted in cotton, it was not the county's primary crop, ranking in the bottom third of producers. In general, the county appears to be diversified, with farms producing orchard crops, corn, wheat, and oats (Watson 1907:576).

Lancaster County is at the edge of what has traditionally been called the Black Belt — the area of large plantations that formed the nucleus of tenancy. Heavily dominated by African Americans, this region was hardest hit by the effects of tenancy, both before and after the Great Depression (Goldenweiser and Truesdell 1924; Woofter 1936:3). Just west, however, was the Upper Piedmont, where plantations were "few, scattered, and small" (Woofter 1936:3) and tenancy was somewhat ameliorated.

The different history of the two areas is reflected by the average size of plantations in the Upper Piedmont and Black Belt — 211 acres compared to 275 acres. There was also a clear difference in owner incomes. In the Upper Piedmont the average net income for the owner was $1,710, compared to $1,462 for Black Belt owners.

Tenancy was also heavier in the Black Belt, accounting for 73% of the farmers, compared to only 63% in the Upper Piedmont. This, however, did not translate directly into income levels for tenants. In the Upper Piedmont croppers or sharecroppers had a net yearly income of $104, while share tenants' income was $170. In the Black Belt, croppers did better, earning $127 per family, while the sharecroppers did appreciably worse, earning only $106 per year (Woofter 1936).

The 1939 *General Highway and Transportation Map* for Lancaster (Figure 8) reveals the presence of several farms in the vicinity of the survey area. It is possible that some of the historic remains found along the corridor were associated with these farms.

As South Carolina gradually recovered from the depression of the 1930s (spurred by World War II), Lancaster turned to industry. Much of the agricultural land was allowed to grow up in timber. Seven piedmont counties, including Lancaster, combined account for nearly 43% of the state's factory workers, although they hold only 30% of its population (Kovacik and Winberry 1987:193).

METHODS

Archaeological Field Methods

The initially proposed field techniques involved the placement of shovel tests at 100 foot intervals along the centerline of the corridor. Since this corridor is only 100 feet in width, only one transect was proposed. All soil would be screened through ¼ inch mesh, with each test numbered sequentially by transect. Each test would measure about 1 foot square and would normally be taken to a depth of at least 1.5 to 2 feet or until subsoil was encountered. All cultural remains would be collected, except for mortar and brick, which would be quantitatively noted in the field and discarded. Notes would be maintained for profiles at any sites encountered.

Should sites (defined by the presence of two or more artifacts from either surface survey or shovel tests within a 25 feet area) be identified, further tests would be used to obtain data on site boundaries, artifact quantity and diversity, site integrity, and temporal affiliation. These tests would be placed at 25 to 50 feet intervals in a simple cruciform pattern until two consecutive negative shovel tests were encountered. The information required for completion of South Carolina Institute of Archaeology and Anthropology site forms would be collected and photographs would be taken, if warranted in the opinion of the field investigators.

These proposed techniques were implemented with no significant modifications. As previously reported, we found the corridor entirely cleared and most of it was also grubbed with some preliminary grading. This resulted in what can be described only as exceptional visibility. In addition, the site work, combined with subsequent erosion, revealed that throughout the corridor the A horizon soil was either missing or very thin (typically under 0.2 foot). As a result, while shovel testing was conducted, the tests were often superficial — frequently less than 0.2 foot in depth. In other words, we did not seek to excavate tests into the red clay subsoil horizon. These conditions are very clearly revealed in Figures 3 and 4, well as in some of the site-specific illustrations.

Consequently, while we report a total of 475 shovel tests were excavated, many were very superficial with virtually no soil to be screened.

Architectural Survey

As previously discussed, we elected to use a 1.0 mile area of potential effect (APE). The architectural survey recorded buildings, sites, structures, and objects which appeared to have been constructed before 1950. Typical of such projects, this survey recorded only those which "have kept their integrity" (Anonymous n.d.:4).

For each identified resource a Statewide Survey Site Form would be completed and at least two representative photographs would be taken. Permanent control numbers would be assigned by the Survey Staff of the S.C. Department of Archives and History at the conclusion of the study. The Site Forms for the resources identified during this study would then be submitted to the S.C. Department of Archives and History.

The survey was conducted by driving the public roads (typically county or state secondary roads) in the APE. The roads included SC 200, and portions of S-187 and S-296.

As previously discussed, Lancaster County has a comprehensive architectural survey, with several sites previously recorded in this APE. As a result, our architectural investigation consisted of both looking for any structures which might have been overlooked by the previous investigation or which should perhaps now be considered, as well as re-visiting the previously identified sites.

The background research on individual properties would be more limited than is the case on

county-wide local history surveys. We anticipated collecting all of the information readily available to us in the field. In other words, if we found residents willing to discuss their property, we would take advantage of that to collect additional information. We would not, however, pursue individuals who were not at home, attempt to make contact with others in the area, or aggressively seek out property owners. We would not conduct deed research, nor would we search newspaper archives for property-specific citations.

Site Evaluation

Archaeological sites will be evaluated for further work based on the eligibility criteria for the National Register of Historic Places. Chicora Foundation only provides an opinion of National Register eligibility and the final determination is made by the lead federal agency, in consultation with the State Historic Preservation Officer at the South Carolina Department of Archives and History.

The criteria for eligibility to the National Register of Historic Places is described by 36CFR60.4, which states:

> the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> a. that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> b. that are associated with the lives of persons significant in our past; or
>
> c. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> d. that have yielded, or may be likely to yield, information important in prehistory or history.

National Register Bulletin 36 (Townsend et al. 1993) provides an evaluative process that contains five steps for forming a clearly defined explicit rationale for either the site's eligibility or lack of eligibility. Briefly, these steps are:

- identification of the site's data sets or categories of archaeological information such as ceramics, lithics, subsistence remains, architectural remains, or sub-surface features;
- identification of the historic context applicable to the site, providing a framework for the evaluative process;
- identification of the important research questions the site might be able to address, given the data sets and the context;
- evaluation of the site's archaeological integrity to ensure that the data sets were sufficiently well preserved to address the research questions; and
- identification of important research questions among all of those which might be asked and answered at the site.

This approach, of course, has been developed for use documenting eligibility of sites being actually nominated to the National Register of Historic Places where the evaluative process must stand alone, with

relatively little reference to other documentation and where typically only one site is being considered. As a result, some aspects of the evaluative process have been summarized, but we have tried to focus on each archaeological site's ability to address significant research topics within the context of its available data sets.

For architectural sites the evaluative process would be somewhat different. Given the relatively limited architectural data available for most of the properties, we anticipated on evaluating these sites using National Register Criterion C, focusing on the site's "distinctive characteristics." Key to this concept is the issue of integrity. This means that the property needs to have retained, essentially intact, its physical identity from the historic period.

Particular attention would be given to the integrity of design, workmanship, and materials. Design includes the organization of space, proportion, scale, technology, ornamentation, and materials. As *National Register Bulletin* 36 observes, "Recognizability of a property, or the ability of a property to convey its significance, depends largely upon the degree to which the design of the property is intact" (Townsend et al. 1993:18). Workmanship is evidence of the artisan's labor and skill and can apply to either the entire property or to specific features of the property. Finally, materials — the physical items used on and in the property — are "of paramount importance under Criterion C" (Townsend et al. 1993:19). Integrity here is reflected by maintenance of the original material and avoidance of replacement materials.

Laboratory Analysis

The cleaning and analysis of artifacts was conducted in Columbia at the Chicora Foundation laboratories. These materials have been catalogued and accessioned for curation at the South Carolina Institute of Archaeology and Anthropology, the closest regional repository. The site forms for the identified archaeological sites have been filed with the South Carolina Institute of Archaeology and Anthropology. Field notes and photographic materials have been prepared for curation using archival standards and will be transferred to that agency as soon as the project is complete.

Analysis methods focused on occupation spans, likely functions of the various sites, and changes in raw material or ceramic preferences. With prehistoric sites, diagnostic lithics and/or pottery provide temporal information. The ceramics were compared to published type descriptions where available (such as Coe 1964).

Debitage categories might include primary (defined as flakes with 90% or more cortex), secondary (defined as having less than 90% cortex), or interior (defined as having no cortex). These categories, widely used, are briefly explained by Yohe (1996:54-56; for further information see Blanton et al. 1986 or Oliver et al. 1986).

Shatter is often called chunks by other researchers. Either term is typically applied to angular pieces of debitage of various sizes. They lack observable striking platforms, dorsal and ventral faces, or other characteristics of flakes. These items are often, although not always blocky and angular. Shatter is thought to have been produced in greatest numbers in the very earliest stages of tool production.

Points, also called hafted bifaces by some, are symmetrical, pointed bifaces which are modified for hafting. The diagnostic lithic remains were compared to published typological descriptions for the various projectile points such as Coe (1952, 1964), Oliver (1981), and South (1959). Items which can not be securely identified because of damage or which lack the often definitive basal sections are classified simply as bifaces.

At this survey level tools are defined very simply, being placed in broad morphological categories. Our laboratory methods, for example, define a biface as an artifact with flakes removed on both sides (not distinguishing between preforms, early stage reductions, and so forth); a core is a piece of raw material from which flakes have been removed; an end scraper is a blade tool with at least one convex end which exhibits a steep angle; a used flake is a chip of stone that was used as a tool, exhibiting edge damage or wear; and a side scraper is a flake tool in which one of the long edges was retouched to serve as the scraping edge. These

definitions generally follow those provided by Yohe (1996).

Analysis of the historic collections follow professionally accepted standards with a level of suitability to the quantity and quality of the remains. In general, the temporal, cultural, and typological classifications of historic remains follow such authors as Price (1970) and South (1977). Glass artifacts are identified using sources such as Jones (1986), and Jones and Sullivan (1985). Sutton and Arkush (1996) provide an excellent overview of a broad range of other historic material, although primary sources will typically be provided in the text if the remains require a more detailed analysis.

RESULTS OF SURVEY

Introduction

The cultural resources identified during the intensive survey of the 8.5 mile long proposed Catawba Ridge Boulevard consist of 13 archaeological sites and two architectural sites (Figure 9). Twelve of the 13 archaeological sites are recommended not eligible; the remaining site is a historic cemetery which is recommended eligible for inclusion on the National Register of Historic Places. Of the four previously reported architectural sites, two have been removed or demolished; the remaining two were both previously identified as not eligible and we concur with those assessments

The project as proposed will not affect any of the previously identified archaeological sites, although these sites may be damaged or destroyed by future development. It is also likely, given the results of this study, that there are many additional archaeological sites within the proposed 3,000 acre Catawba Ridge tract. As different phases of this development are advanced it is highly likely that significant archaeological sites will be encountered. We strongly recommend that additional intensive survey be conducted for the remainder of the tract. Failure to do so will result in the loss of archaeological and historical data.

The current study, however, has failed to identify any architectural sites in the project APE which are likely to be affected by the proposed 3,000 acre development. Consequently, we do not recommend any additional architectural investigations for the project.

Archaeological Sites

38LA435

Site 38LA435 is a surface scatter of prehistoric lithics. It is situated on a ridge side slope at an elevation of about 470 feet AMSL, bordering a creek situated 350 feet to the south (Figures 10 and 11). Topography of the immediate area is somewhat steep, with slopes at about 10 to 25%, although the site itself is situated on a relatively level area. Typical vegetation in the adjacent areas include both pine and hardwood forest, but the survey area had been recently logged and a road has been bulldozed through the site. Surface visibility at the time of the survey was excellent (75-100%). Erosion is evident in gullies, silt-clay deposits, and large areas of red clay subsoil at the surface. Only a few protected areas retain the orange clay loam in the A horizon. The soil is identified as severely eroded Cecil clay loam (Rogers 1973).

Site 38LA435 is located north of SC 200 and is accessible from a wooded trail that runs northwest from the highway. A central GPS UTM coordinate is E512227 N3829911 (NAD27 datum).

Although shovel tests were executed uniformly throughout the corridor at 100 foot intervals (to depths of up to 1.5 feet), the site was first discovered by pedestrian surface collection of a Morrow Mountain projectile point (Coe 1964:37). This measures 40 mm in length (the tip is broken) and 25 mm in shoulder width. Other artifacts include a quartz biface fragment, three quartz flakes, one rhyolite flake, and unidentifiable (modern) animal bone. Nine shovel tests were excavated in a 50 foot cruciform pattern in the central site area, and all were negative. The site boundaries of 175 feet north-south by about 125 feet east-west are based on the pedestrian survey, not the shovel testing. The east-west dimensions are not precisely established — the surface scatters extends to the edge of the cleared area, yet shovel testing beyond the corridor failed to identify any remains.

The National Register potential of 38LA435 is contingent on several factors such as the data sets present, site integrity, and ability to address significant research questions. This site has produced only a few

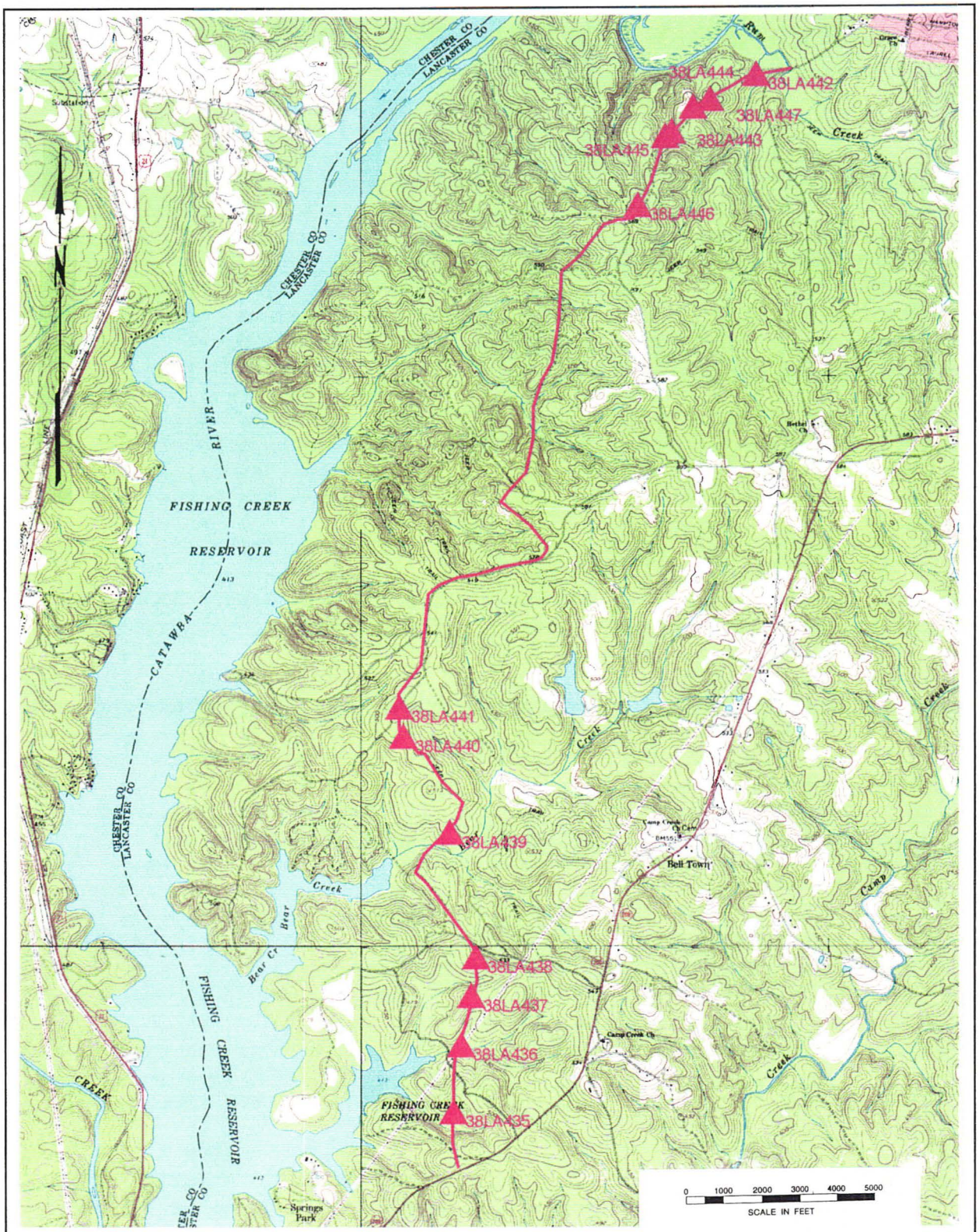


Figure 9. Identified sites in the survey corridor (basemap is USGS 7.5' Lancaster and Lancaster SE).

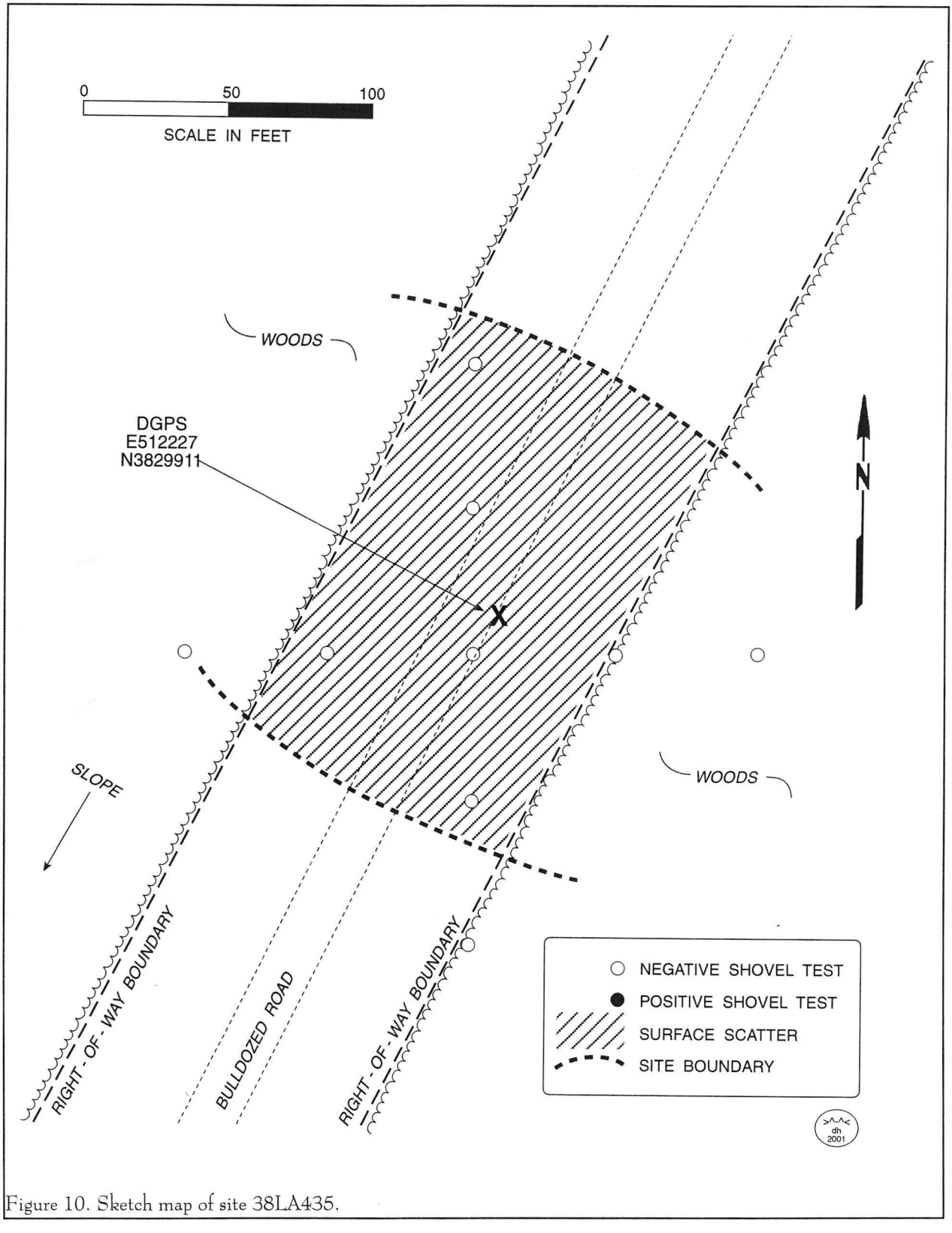


Figure 10. Sketch map of site 38LA435.

Figure 11. View of 38LA435 looking north from ridge to the south of the site.

data sets — lithic tools and debitage — and is unlikely to possess other important data such as intact subsurface features. Only one diagnostic artifact was found, and no shovel tests yielded subsurface remains. Erosion is compounded by logging and construction. Site damage is heavy, making context difficult to interpret. Overall integrity is low. Further, the site does not appear to have the artifact density or variety necessary for further study. 38LA435 is recommended not eligible for inclusion on the National Register and no further management activity is recommended.

38LA436

Site 38LA436 is located about 3000 feet north of SC 200 on a bottomland 50 feet north of a small creek. The elevation is around 430 feet AMSL, with a gentle upward slope to the north. The soils in the immediate area are typified as Cecil clay loam. As at 38LA435, erosion is evident with much silt-clay deposited near the creek basin. Vegetation in the vicinity includes pine and hardwood, but the proposed road right of way corridor has been cleared. A road has been graded through the site and at the time of the survey, ground cover was light.

38LA436 consists of a sparse surface scatter of prehistoric lithics. The site dimensions of about 100 feet north-south by 50 feet east-west are based on the scatter of surface material observed during this study. The central UTM coordinates for this site are E512311 N3830449 (NAD27). No materials were recovered in the initial 100-foot interval shovel testing; nine additional shovel tests were excavated in a cruciform pattern with 50 foot intervals. Test ranged from 0.8 feet to 1.5 feet in depth. All were negative and all revealed red clay subsoil on the surface.

The material recovered from this site includes two quartz biface fragments, eight quartz flakes, four rhyolitic flakes, five soapstone bowl fragments, and one quartz hammerstone fragment.

Eligibility for inclusion on the NRHP for 38LA436 should be determined by the data sets, integrity, and potential to address significant research issues. This site contains no diagnostic data sets or apparent intra-site patterning. Important relative issues such as site function and chronology are in question, and artifact density is low. The lack of subsurface data sets only compounds questions of integrity. Further, this is a site that has been heavily damaged. Based on this analysis, it seems unlikely that this site can address significant research questions. 38LA436 is recommended not eligible for the National Register of Historic Places. No further management activity is recommended.

38LA437

Site 38LA437 is located about 4500 feet north of SC 200, at the intersection of the survey corridor and a powerline access road. The site

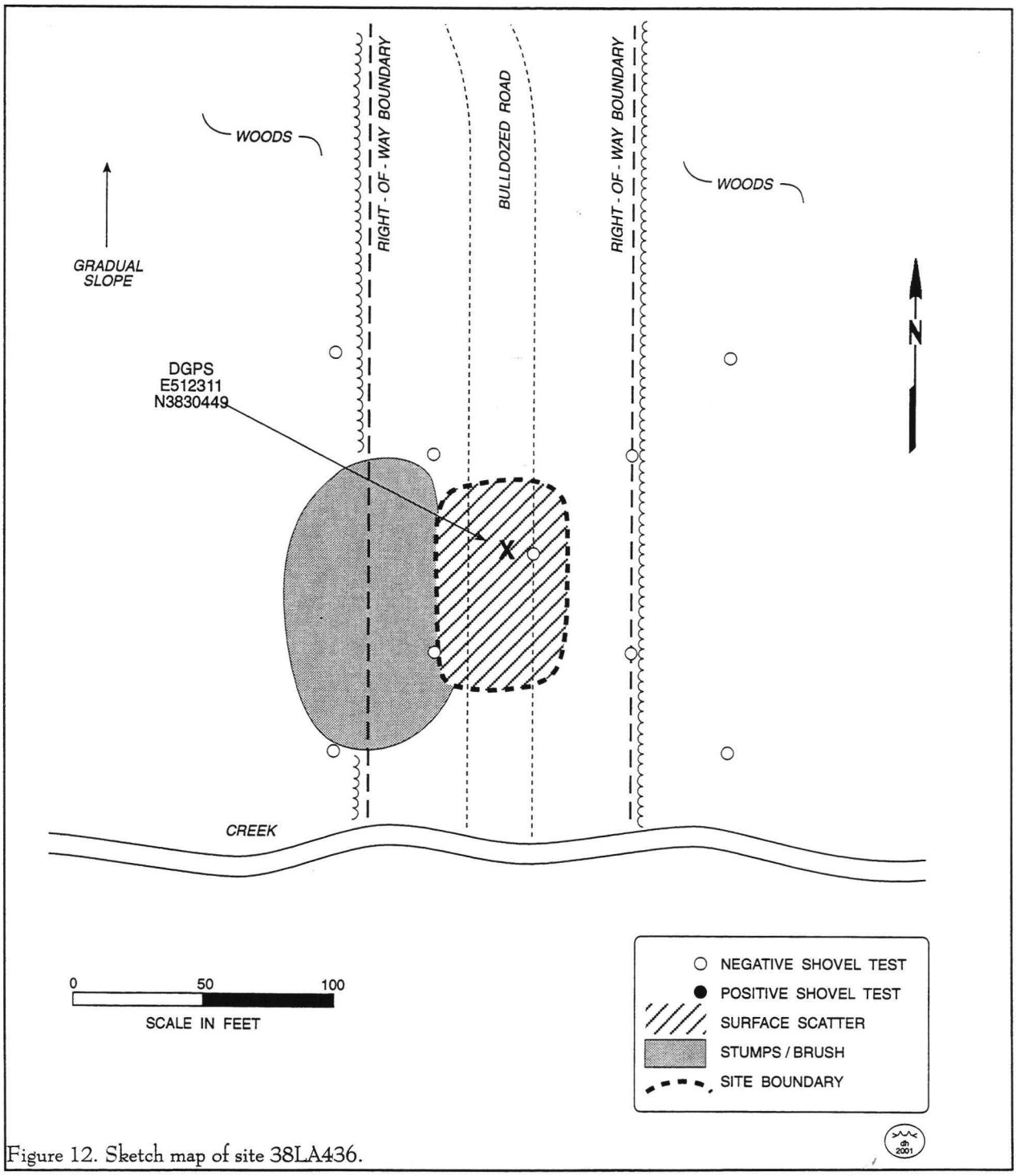


Figure 12. Sketch map of site 38LA436.

encompasses the eastern edge of a ridge top, at around 480 feet above MSL. Nearby vegetation includes mostly pine and some hardwood trees, although the survey corridor itself is logged and a road is bulldozed through the center. At the time of the survey, the area was newly disturbed and surface visibility was near

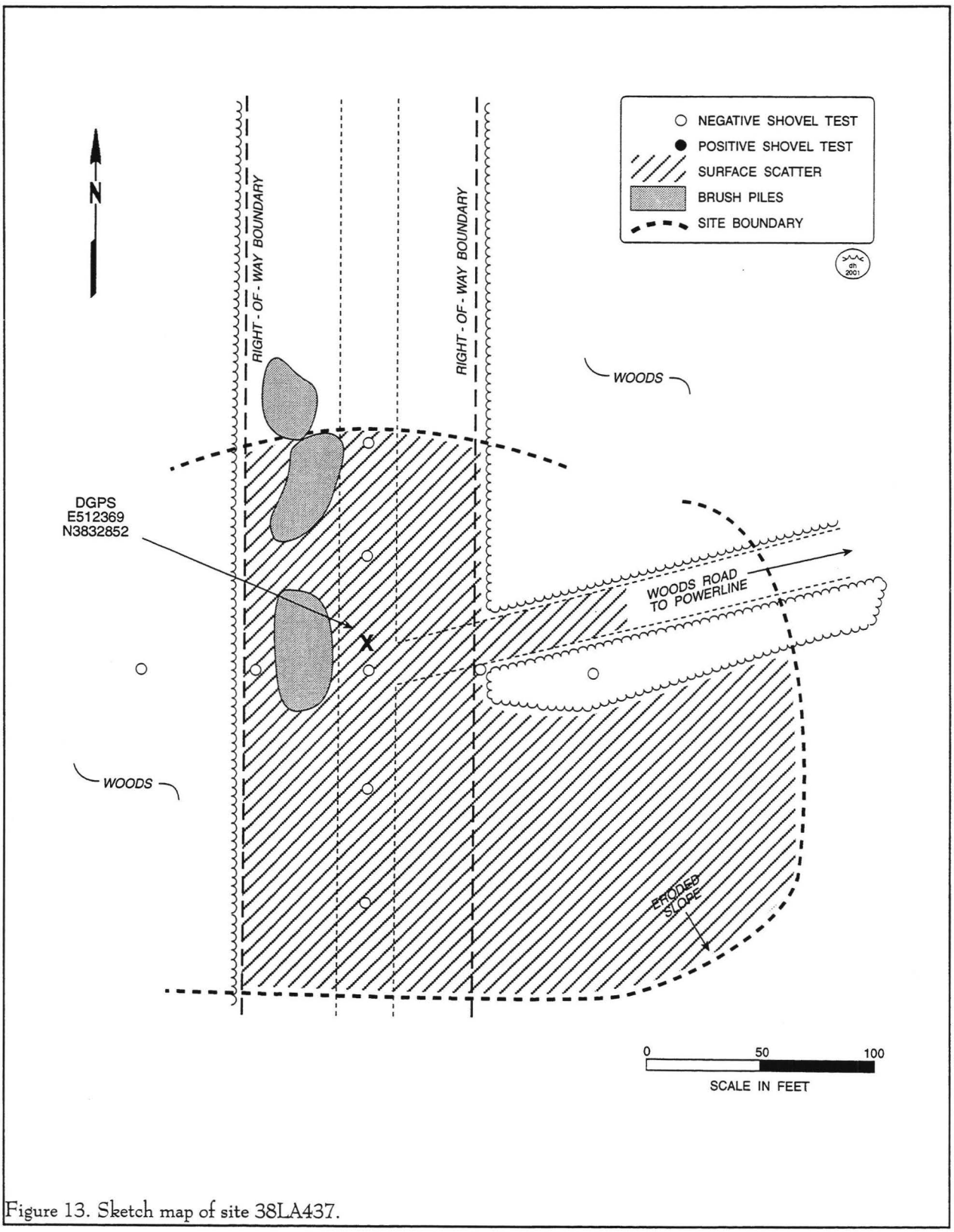


Figure 13. Sketch map of site 38LA437.

100%.

The site was located through pedestrian surface survey, and material seems localized to an area roughly 250 square feet, although this is an approximation. The central UTM coordinates are E512369 N3832852. The site was first encountered during the pedestrian survey and none of the 100-foot intervals shovel tests revealed any material. A series of nine additional shovel tests were executed to depths of 1.5 feet in a cruciform pattern around the area, but failed to produce any subsurface artifacts. Dark red subsoil was noted on the surface in all shovel tests, evidencing extensive site damage. The soils in the immediate site area are Cecil clays.

Recovered from the surface collection is the tip of a quartz biface (probably a projectile point), 16 quartz flakes, and one heavily eroded plain sherds. Given the dense quantity of coarse sand in the paste, this is probably a Yadkin Plain sherd, suggesting a Middle Woodland time period for the site.

In order to assess the potential eligibility of 38LA437, the site's data sets, archaeological integrity, and ability to address significant research questions must be evaluated. Except for one probable Yadkin sherd, there is a lack of diagnostic artifacts at this site. Subsurface data sets are entirely lacking and those from the surface are too few in number to address issues such as site function. Erosion in the area is severe, and has been exacerbated by logging and bulldozing. It is unlikely that this site has the artifact density or variety to address significant research questions. This site is also heavily damaged which would limit any further work. Based on the general lack of data sets, integrity, and research potential, this site is recommended not eligible for inclusion on the NRHP and no further management activity is recommended pending review by the State Historic Preservation Office.

38LA438

38LA438 is a scatter of prehistoric lithics. Evidence of its existence is restricted to a small surface scatter of flakes and one tool fragment situated on the south edge of a gently sloping ridge. Its location is approximately 150 feet south of an unnamed wooded road that leads west from SC 200. The central UTM coordinate are E512408 N3831169. It is elevated 490 feet AMSL, with soils classified as Cecil clay loam. Consistent with the inherent qualities of this soil series, erosion is evident, especially in the logged survey corridor and recently disturbed areas. Vegetation in the adjacent areas is mixed pine and hardwood. A road has been bulldozed through the site. At the time of the survey, groundcover was mostly absent, allowing excellent surface visibility and an intensive surface collection. A series of nine shovel tests were excavated at 50 foot intervals on a cruciform pattern; none, however, produced subsurface remains. Since subsoil was exposed at the surface in most tests, none were excavated deeper than about 1.0 foot.

Materials recovered in the surface collection include one quartz biface fragment and 11 quartz flakes.

The National Register evaluation of 38LA438 should examine data sets, integrity, and potential for a meaningful research contribution. Lack of artifact density, variety, and subsurface material suggests this site does not have the data sets necessary to address significant research issues. Moreover, this site has been heavily impacted by erosion damage. Integrity is poor. Research questions could be better directed to sites with a wider range of data sets, and tangible intra-site patterning. Severe damage makes it even more unlikely that this site could address significant research questions. The site, therefore, is recommended not eligible for inclusion on the National Register, and no further management activity is recommended.

38LA439

Site 38LA439 sits on a ridge nose overlooking Bear Creek about 400 feet to the south. It has an approximate elevation of 470 feet AMSL, and the topography gently slopes to the south. According to Rogers (1973), the area's soils can be typified as "gullied land . . . [containing] Cecil soil material." It is located west of SC 200 near Bell Town and is accessible only from a nearby wooded trail that passes about 1,000 feet north of 38LA439. There is another trail to the south (0.6 miles), but accessing the site requires crossing the creek. The central UTM coordinates are E512192 N3832179.

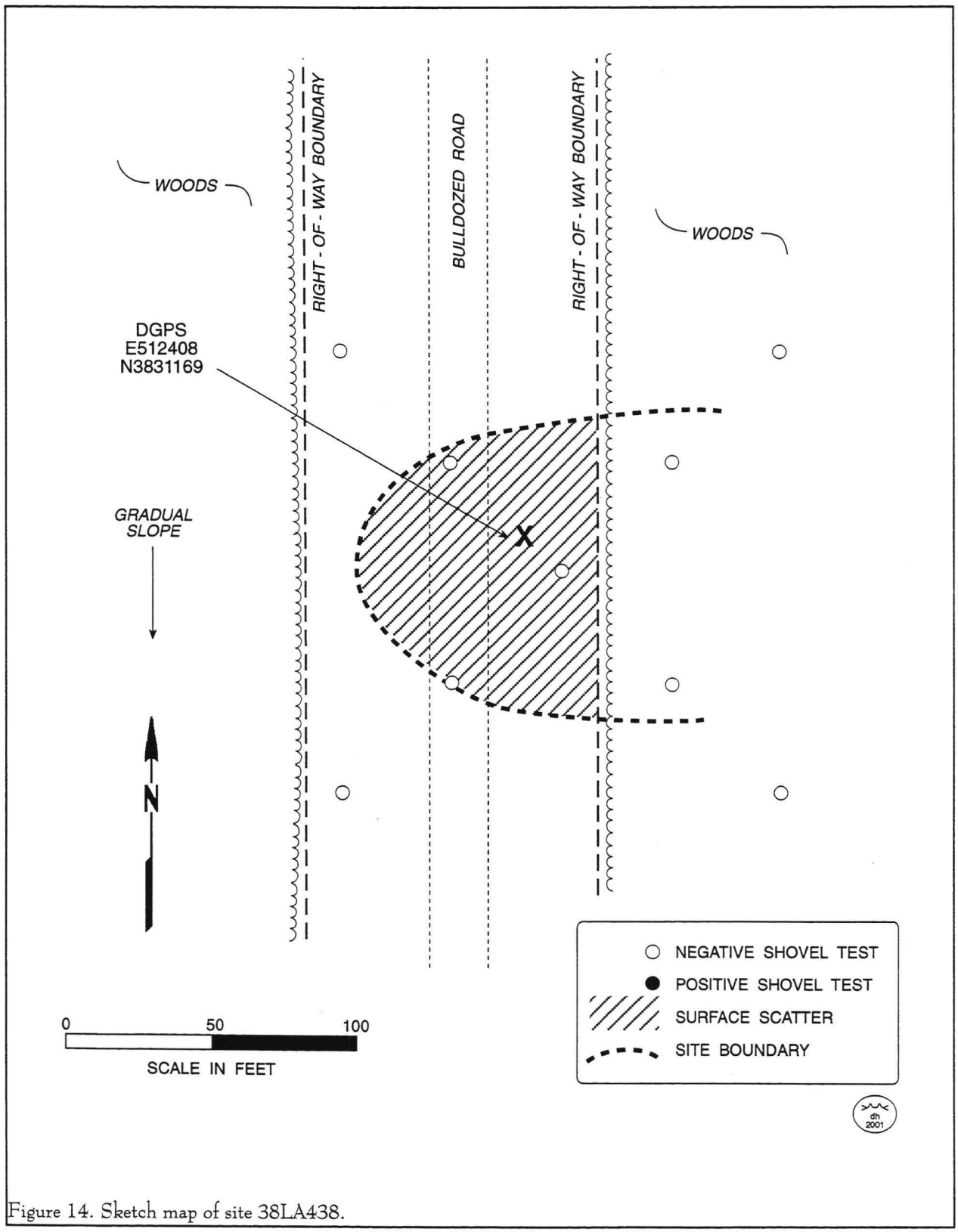


Figure 14. Sketch map of site 38LA438.

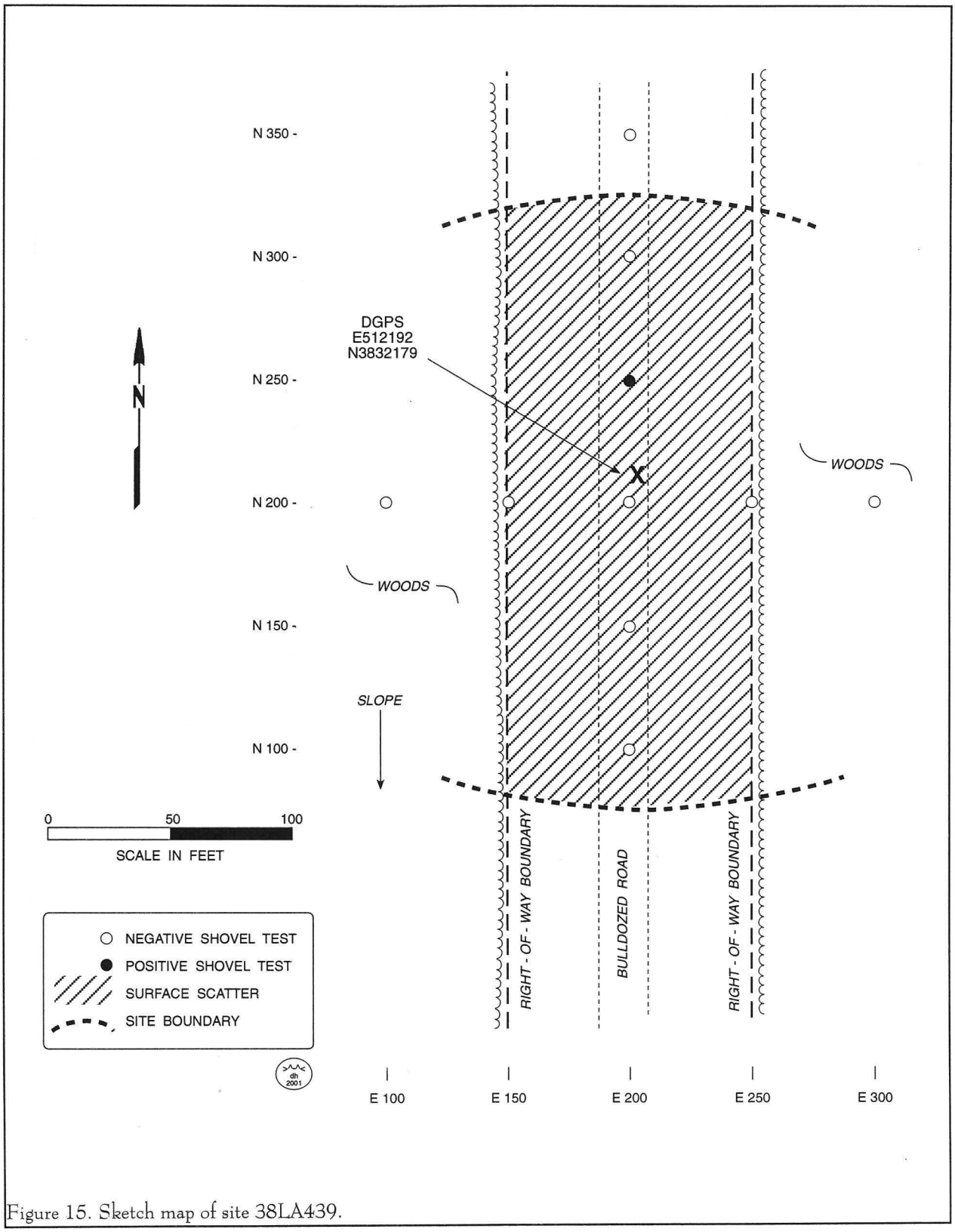


Figure 15. Sketch map of site 38LA439.

Figure 16. View of 38LA440 showing the large foundation rocks and bricks in the central site area.

The surrounding area supports a pine and hardwood forest. The locus of the site, however, is in a logged right-of-way corridor with a bulldozed road bisecting it.

Shovel testing at 100-foot intervals failed to identify any subsurface remains, although the pedestrian survey did reveal a small collection — and the dimensions of the site are largely based on the distribution of this material. Recovered from the surface were three quartz biface fragments (including what may be a fragmentary Morrow Mountain and a Savannah River Stemmed), a used quartz flakes (with a spokeshave), and 19 quartz flakes.

Nine shovel tests were placed using a cruciform pattern set on 50 foot intervals. Tests went to a maximum of 1.0 feet. The test at N250 E200 (Figure 14) produced one worked rhyolite flake within the upper 0.2 foot (in a bulldozer mixed zone). The remaining shovel tests (even in the woods) revealed an absence of A horizon soil.

In order to examine important temporal or typological questions, it is crucial for a site to yield both defined tools and material suitable for dating. This site has produced neither. To examine such issues as settlement and subsistence, it is necessary for a site to possess recognizable archaeological features or recognizable concentrations of data sets. This site's data sets appear insufficient to conduct further research. Further, it has been extensively damaged by gullying, erosion, logging, and road construction. As a result, 38LA439 is recommended not eligible for inclusion on the National Register. No further management activity is recommended.

38LA440

Site 38LA440 is a relatively large scatter of historic material apparent both on the surface and in subsurface tests. Materials recovered date to the early twentieth century. The site is located south of Bethel Boat Landing Road and north of Bear Creek, where a jeep trail and the proposed road diverge. Topography of 38LA440 is mostly flat, with an elevation of 500 feet AMSL. The site consists of Cecil clay loam.

The immediate area is logged and bulldozed, and adjacent lands support mixed pine and hardwood forest. Since the area was newly disturbed at the time of the survey, surface visibility was excellent. Material was dispersed on the surface in an area about 200 feet north-south by 600 feet east-west. The central UTM coordinates are E511813 N3832957 (NAD27) at a point marked by a concentration of brick and large rocks (Figure 16). This may represent a foundation or other remnants of an historic structure. Other architectural debris nearby (such as nails) support this assessment.

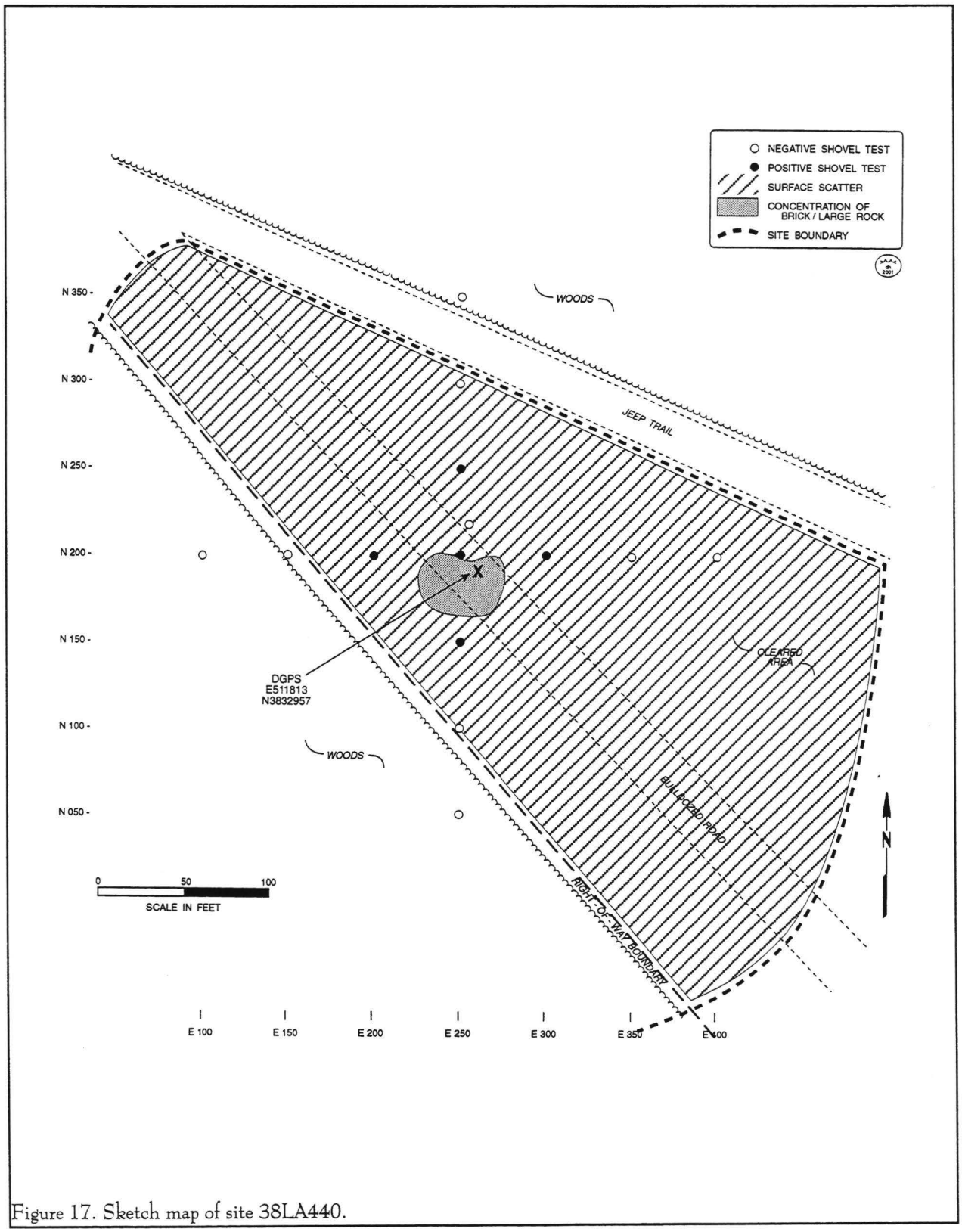


Figure 17. Sketch map of site 38LA440.

Table 1.
Artifacts Recovered from 38LA440

	N100 E250	N150 E250	N200 E300	Surface
Whiteware, undec.	1		1	35
blue tp				2
Yellowware, undec.				1
annular				1
White porcelain				1
Stoneware		1		5
Container glass, brn.				3
blue				1
aqua				10
clear				3
manganese				6
Milk glass				1
Nails, machine cut				2
, wire				2
Spikes				1
Porcelain floor tile				1

The initial 100-foot interval shovel tests failed to identify any materials associated with this site. An additional 13 shovel tests set on a cruciform pattern at uniform 50 foot intervals were more productive (Figure 17). Five of these tests, typically excavated to about a foot, were positive. In these we identified a very thin remnant A horizon or a badly disturbed humic material evidencing extensive disturbance overlying red clay subsoil. Material was most often found in what is best described as a thoroughly mixed and disturbed zone about 0.2 foot in depth (the extent of this disturbance is illustrated in Figure 16). The extraordinary northwest-southeast distribution of material is almost certainly associated with bulldozing and other construction activities.

The materials recovered from both the surface collection and also the positive tests are itemized in Table 1. The whitewares and white porcelains are suggestive of an early twentieth century date. Manganese glass was most popular from the last quarter of the nineteenth century though the first quarter of the twentieth century (Jones and Sullivan 1985:13). It is likely that this site represents one of the farm units revealed in this area by Figure 8. The artifacts are consistent and the boulders and brick remains are also suggestive of a turn of the century farm unit (either tenant or owner).

While a variety of data sets were present (ceramics, glass, architectural remains), the remains have been extensively damaged by the clearing and grubbing operations. The construction which has taken place so far have significantly dispersed the site remains, making it unlikely that we can identify intrasite patterning. No subsurface features were identified during this study. Although further stripping *might* reveal either a well or privy, this is not a certainty. In addition, at least some dwellings were used to fill old privies and well, so even if found, it is not certain that either would offer any significant research return.

Though the site is relatively dense in the immediate vicinity of the brick rubble and foundation stones, it lacks variety. Damage to the area is heavy, further reducing the site's potential to address significant research questions. Consequently, 38LA440 is recommended not eligible for inclusion on the National Register, and no further management activity is recommended.

38LA441

Site 38LA441 is a light scatter of historic ceramics, brick, and glass (with a very minimal prehistoric component). It sits on a ridge top at 510 feet AMSL with a gently sloping topography. The general area is a mixed pine and hardwood forest, with a right-of-way corridor that has been recently cleared and bulldozed. Piles of stumps and brush have been pushed to the center of the survey corridor (Figure 18).

The site is located west of SC 200, south of S-296 where a jeep trail and survey corridor intersect. The site was first noted in a small surface pile of brick and rubble on the east side of the road. The central UTM coordinates are E511778 N3833203. From this point, ten shovel tests were executed on a cruciform pattern, set on 50 foot intervals, and taken to a maximum depth of about a foot. Only one of these tests (N200E150) was positive, producing a single blue transfer printed whiteware ceramic.

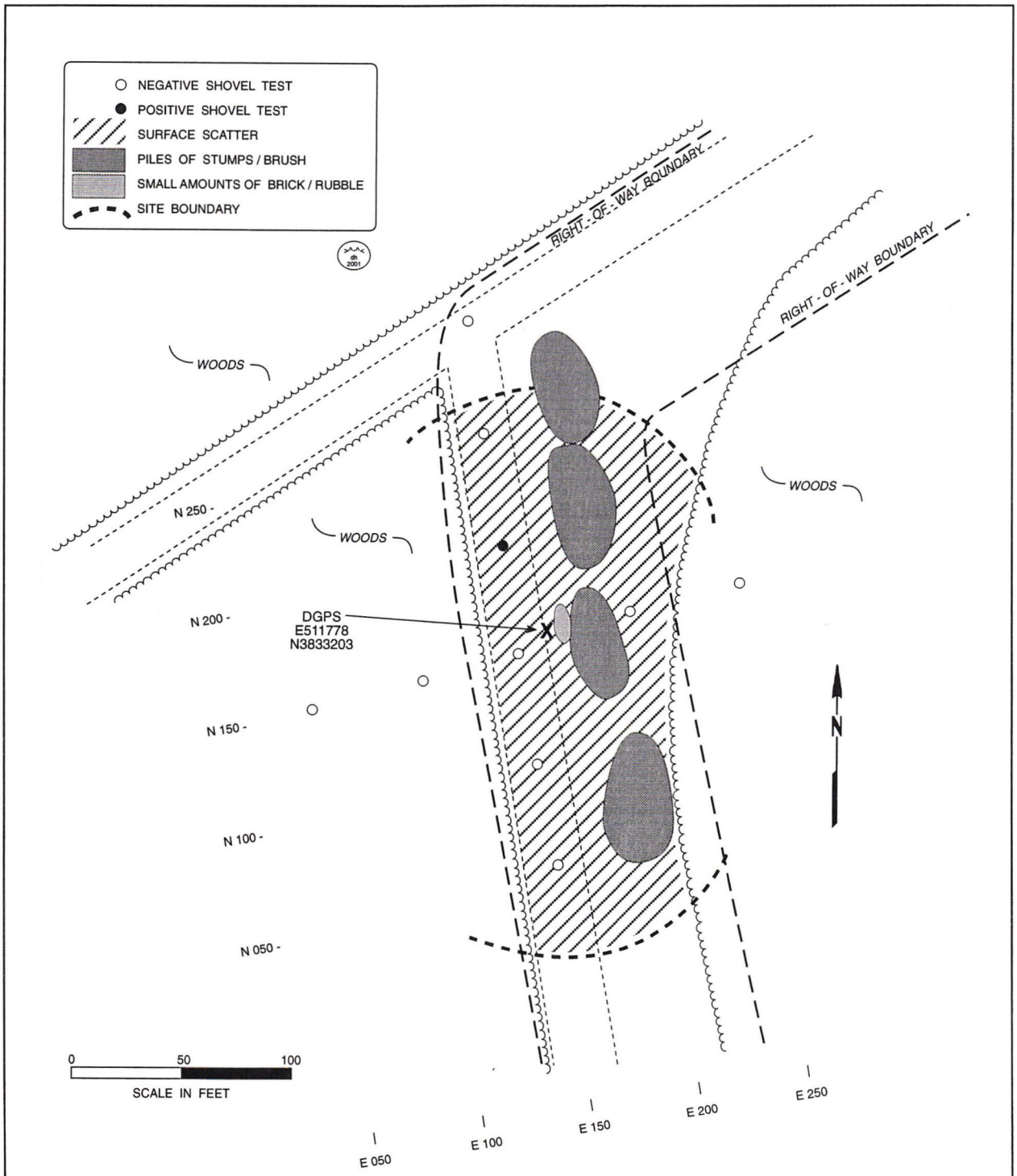


Figure 18. Sketch map of site 38LA441.

Figure 19. View of the causeway at 38LA442, looking to the east.

Material from the surface was sparsely distributed in an area 250 feet north-south by 150 feet east-west. These remains include 18 undecorated whiteware, two blue transfer printed whitewares, four sponge decorated whitewares, a blue edged pearlware, two white porcelains, two stonewares, two fragments of milk glass, one fragment of light green container glass, five fragments of clear glass, two white porcelain toy fragments, and two quartz flakes. Although this is a fairly large collection, there was no evidence of intra-site patterning, probably because this site — like others on the corridor — has been thoroughly damaged by clearing and grubbing.

These materials, with the exception of the one pearlware, are temporally consistent with those identified at 38LA440 and it is likely that the two sites are related. Since there seems to be relatively little difference in the status of the ceramic assemblages, it may be that the two sites represent tenant dwellings associated with an, as yet, unidentified farm complex.

There are a variety of questions which could be addressed to such a farm complex. For example, in spite of years of research, there has been relatively little effort to verify, or expand on, the tenant/yeoman farmer artifact pattern originally developed nearly two decades ago. Nevertheless, the current site (like 38LA440) has been far too seriously damaged to allow any meaningful research. Consequently, we recommend the site as not eligible. No additional management activities are necessary pending the review of the State Historic Preservation Office.

38LA442

Site 38LA442 is located immediately west of S-187 and the Rum Creek bridge. SC 200 is the nearest major highway, situated about 3 miles south. The site is defined as a road causeway associated with several separate modern trash piles. The site joins the left roadside on the northwest bank of Rum Creek. The area, which is generally bottomland, supports a mixed pine and hardwood forest and the soils are classified as the Chewlaca Series. Shovel testing, however, revealed that there is much silt deposition in the area, presumably a direct result of earth-moving from the hill immediately west of the site.

The causeway itself is clearly visible on USGS topographic maps and was visited as part of the survey. The site extends about 720 feet east-west; ranges from 25-35 feet wide; and is from 5-10 feet in height. About 600 feet west of this site there are 16 (of 18, originally) standing treated posts set on roughly 20 foot intervals. They extend about 100 feet east-west through a small creek, and formerly comprised a support system for a bridge. The UTM point for this bridge support is E513951 N3837838 (NAD27 datum).

Four shovel tests were conducted on 200 foot intervals to a maximum of 1.5 feet total depth along the length of the causeway. The third test west of S-187 produced extensive modern debris including brick, bottle glass, can fragments, and light bulb fragments. Because

Figure 20. View of trash deposits at 38LA442 on the north side of the causeway.

of its modern appearance, no further subsurface testing was done. Not all of the materials from this shovel test were retained, but those curated include seven pink tinted whiteware, two fragments of light green glass, and one fragment of window glass. These materials all date from the middle of the twentieth century and suggest a date range from perhaps 1940 through 1960.

At this site perhaps the most important consideration was whether the remains were 50 years or more old. It is likely that some where. Many others, however, were not. Unfortunately, the nature of the roadside deposits makes it difficult to distinguish the two or arrive at any meaningly horizontal patterning. Moreover, the site has been damaged by erosion, probably prior to the reforestation of the area.

We do not believe that the site is likely to hold important research information, or be able to address significant research questions, which can not be better addressed through historic documentation and examination of modern material culture in museum collections. Consequently, we recommend the site not eligible for inclusion on the National Register of Historic Places. No further management activities are recommended, pending the review and concurrence of the State Historic Preservation Office.

38LA443

Site 38LA443 is a prehistoric lithic scatter containing rhyolitic and quartz flakes. The site was first encountered as surface material during the pedestrian survey, although the 100-foot interval test in the center of the site (N200E200) was also positive.

The site is situated in an area of Georgeville soils at an elevation of 490 feet AMSL. Adjacent areas have mixed pine and hardwood forest with moderate undergrowth, although the site itself had been logged and recently bulldozed. Topography is moderately sloped, and erosion is severe. Groundcover was light at the time of the survey and there was much evidence of gullying and siltation.

The central UTM coordinates are E514002 N3837873. A series of eight additional shovel tests were excavated on a cruciform pattern at 50 foot intervals. These tests revealed thin (0.1 foot) to non-existent A horizon soil and only the initial test produced material (two rhyolite flakes). Surface materials were spread over an area measuring about 100 feet north-south by 100 feet east-west. Recovered were one quartz biface fragment, two quartz flakes, and 14 rhyolite flakes.

Although diversity is very low at this site, it is the only site which has produced such a large quantity of non-quartz material — and this would normally make it worthy at least some additional investigation. In this case, however, the site has been extensively damaged by the clearing, grubbing, and initial grading. Although some areas of remnant A horizon soil were found outside the cleared corridor, there were no associated artifacts, suggesting that the corridor has destroyed the

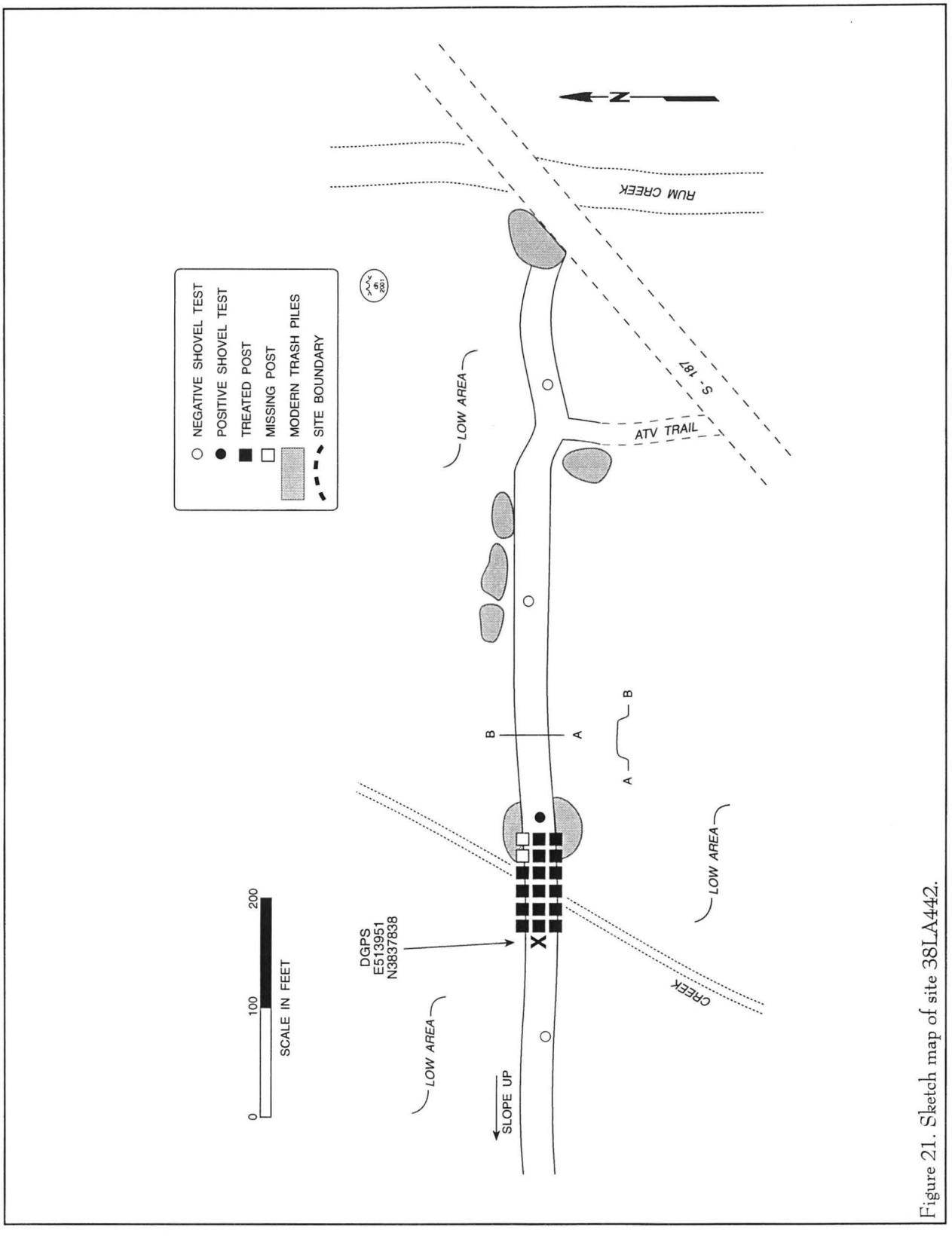


Figure 21. Sketch map of site 38LA442.

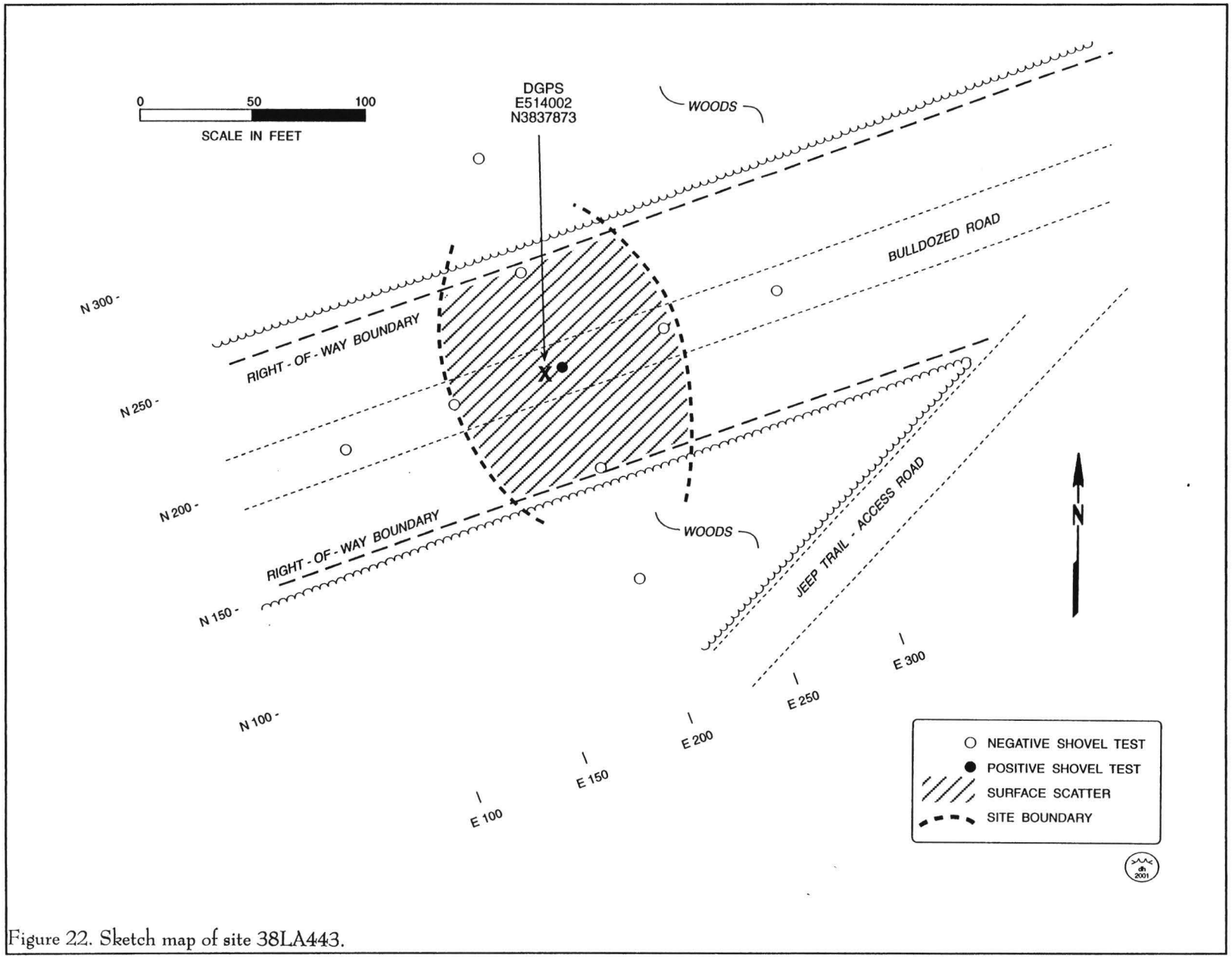


Figure 22. Sketch map of site 38LA443.

Table 2.
Artifacts Recovered from 38LA444

	N150 E150	N150 E200	N150 E300	Surface
Quartz flakes	1			18
Rhyolite flakes	1			
Quartz biface		1	1	5
Whiteware, undec.				6
tinted				1

site core. As a result, it is unlikely that what remains can be expected to address significant research questions. No further management activities are proposed and the site is recommended not eligible for the National Register.

38LA444

Site 38LA444 is a prehistoric lithic scatter containing quartz tools and debitage, and a historic whiteware scatter, probably dating the twentieth century. The site itself is situated on a bare ridge top at 510 feet AMSL and orangish red clay loam composes the majority of soil at the surface. Gullies have formed as a result of runoff and there is extensive sheet erosion. Surrounding areas to all sides are pine and hardwood forest, and exhibit moderate land clearing and grubbing. The site locus has soil identified as Georgeville silt loam (Rogers 1973). The area is severely eroding south-west, which has been worsened by land clearing activity.

The site is found north of SC 200 and south of the junction of Cane and Rum creeks. The UTM coordinates from the center of the surface collected area are E514317 N3838137 (NAD27 datum). A bulldozed jeep road forms the northernmost site boundary. The proposed road is to be placed north of and adjacent to the site, somewhat parallel to the existing trail. Site boundaries, based on the surface scatter are about 400 feet southwest-northeast by 250 feet northwest by southeast, although this likely represents a distribution skewed by bulldozing and artificial spread of the site remains.

Shovel testing at the site, which included 12 tests at 50 foot intervals, revealed a distribution of about 150 feet southwest-northeast by 50 feet northwest-southeast. Three of the tests were positive and revealed a profile consisting of about 0.2 foot of yellowish-brown (10YR5/4) silt loam A horizon overlying a B horizon red (2.4YR4/8) clay subsoil.

The recovered artifacts are listed in Table 2. The biface fragment from N150R200 may be a Morrow Mountain I point, although the break precludes a positive identification. Estimated length would be approximately 70 mm with a width of 34 mm — within the reported range (Coe 1964:37). The biface from N150E300 is also fragmentary, but may represent a reworked Savannah River Stemmed. The length (with a reworked tip) is about 50 mm, with a blade width of 30 mm and a stem length of 9 mm. This is below the recorded sizes (Coe 1964:44), but is within Oliver's Small Savannah River Stemmed type (Oliver 1981:181). The Guilford Lanceolate from the surface measures 68 mm in length and 24 mm in width — within the range proposed by Coe (1964:43). Of the remaining four surface bifaces only one is sufficiently intact to allow typological assessment. The specimen appears to be the basal third of another Guilford point.

Prehistoric data sets include both flakes and a number of bifaces, at least four of which suggest Morrow Mountain, Guilford, and Savannah River assemblages spanning the Middle and Late Archaic. Other data sets, however, such as flake tools, features, or even intrasite concentrations, appear to be lacking or to have been significantly damaged by the clearing and grubbing which have taken place on the site. The historic data sets are very sparse, being represented entirely by ceramics. No architecture or other artifact groups are present. Nor is there any evidence of a nearby structure or other clear evidence of domestic activity.

As with other sites in the project area, in order for 38LA444 to be eligible for listing on the National Register, the data sets should be of the quantity and quality to allow further study. We lack a range of data sets at the site. The site should be sufficiently intact so that its context can be confidently interpreted. This site

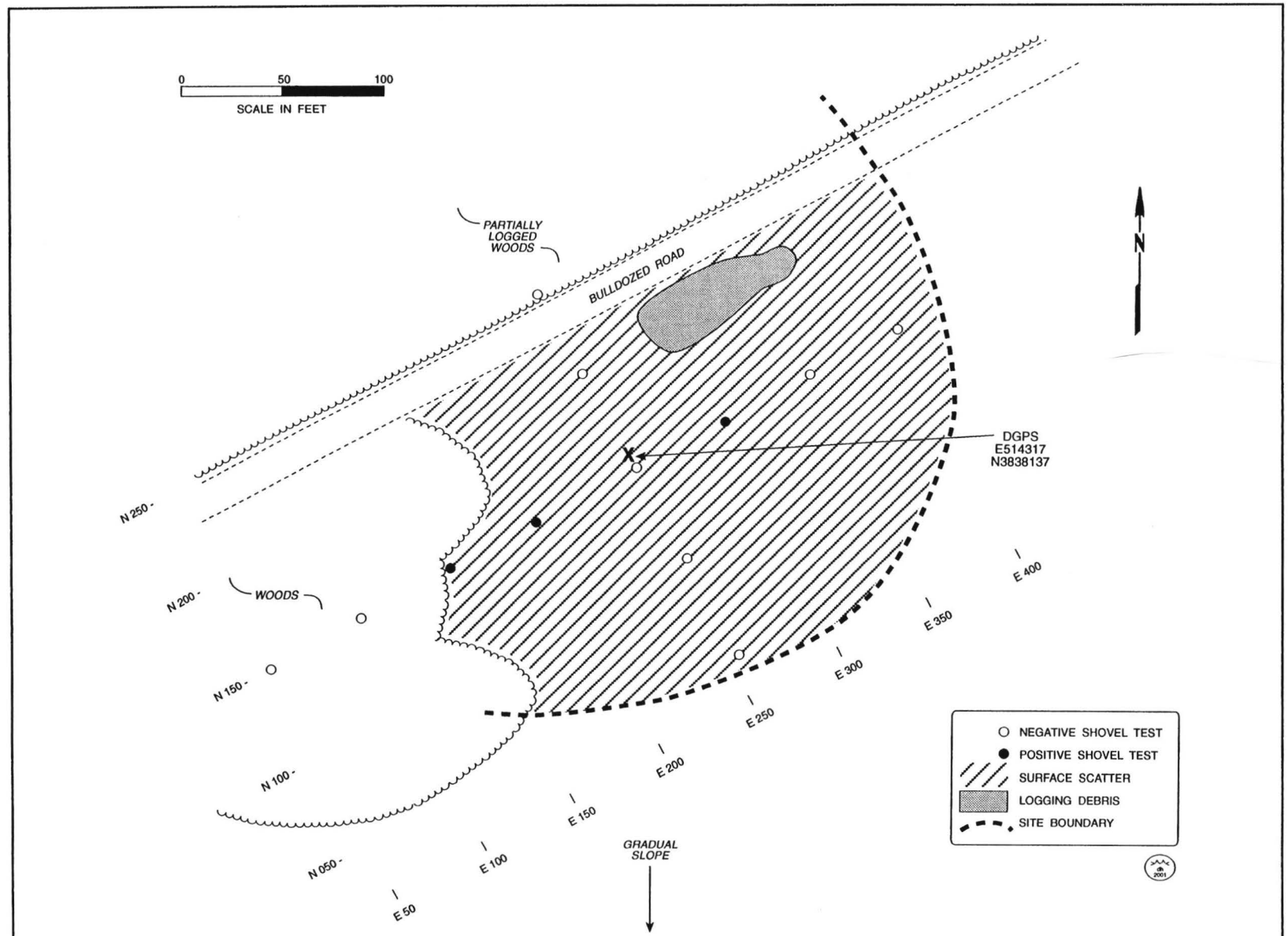


Figure 23. Sketch map of site 38LA444.

has been heavily impacted by land clearing and grubbing, compiled with severe erosion. Based on these factors we do not believe that the site can address significant research questions and it is therefore recommended not eligible for inclusion on the National Register of Historic Places. No further management activities are recommended.

38LA445

Site 38LA445 is a small scatter of lithic tools and debitage found in the road corridor. The initial recovery came from a pedestrian survey of the centerline, which had been bulldozed at the time of the study. Materials were found scattered in an area measuring about 200 by 200 feet on the side slope of a ridge at 490 feet AMSL Soils are classified as Georgeville silt loam (Rogers 1973), but the profiles generally lacked any evidence of A horizon soil. All that was found in most portions of the corridor was a yellowish-red (5YR5/8) to red (2.5YR4/8) clay subsoil — likely the result of clearing, grubbing, and subsequent erosion. Surrounding areas are forested, supporting pine and hardwood. The site is located west of S-187, east of the Catawba River, and south of Cane Creek. The central UTM coordinates are E513951 N3837838.

Recovered from the surface were nine quartz flakes, eight rhyolitic flakes, and one fragmentary quartz Small Savannah River Stemmed point. This point measures about 50 mm in length (the tip is broken) and 34 mm in width. The stem width is 22 mm and the stem length is 10 mm. This point is within the range identified by Oliver (1983:181). Of the 10 additional shovel tests placed in the site area, only one, at N200E250, was positive. This test yielded one quartz biface fragment and one rhyolite flake within the upper 0.1 foot (probably representing a thin remnant A horizon). The biface is a tip, probably from a projectile point.

The data sets for this site include a sparse range of flakes, with only two tools. Only one of the tools is temporally diagnostic, suggesting a Late Archaic campsite. Other data sets, such as features or even clusters of materials that might suggest intrasite patterning, are absent. It is likely that the extensive clearing and grubbing have thoroughly dispersed the remains present and that no intrasite patterning remains. Based on this it is unlikely that the site can address any significant research questions appropriate to the Late Archaic. As a result, we recommend the site as not eligible. No additional management activities are necessary, pending the review and concurrence of the State Historic Preservation Office.

38LA446

Site 38LA446 is situated west of S-187, east of the Catawba River, and south of Cane Creek. The UTM central point is E513726 N3837277 (NAD27) and the site is situated on a ridge top at an elevation of 570 feet AMSL. At the time of the survey this area had been cleared, grubbed, and partially graded, resulting in exposed (and gullied) soils of yellowish-red (5YR5/8) clay. This profile is characteristic of an eroded Georgeville silt loam (Rogers 1973). While the corridor itself was cleared, the surrounding woods were in pine and mixed hardwood. One large debris pile was at the northwestern edge of the site.

The site was first encountered during the pedestrian survey and routine shovel testing failed to identify any remains. The materials on the surface cover an area measuring about 100 feet east-west by 200 feet north-south, probably reflecting the grading and erosion which has occurred. A series of 10 shovel tests were subsequently excavated bisecting the site. Only two of these tests (N200E200 and N200E250) were positive. These tests revealed a thin A horizon of yellowish-brown (10YR5/4) silt loam overlying yellowish-red (5YR5/8) to red (2.5YR4/8) clay. The materials were recovered in the remnant A horizon.

The materials recovered from the site are listed in Table 3, but in general the site appears to reflect a very thin prehistoric occupation — perhaps representing a temporary camp — overlaid by a thin smear of twentieth century debris — perhaps representing a tenant site. Figure 8 does reveal a historic farm settlement in the general area and the two are likely related.

The data sets for this site are limited. The prehistoric remains consist of two bifaces, but we have

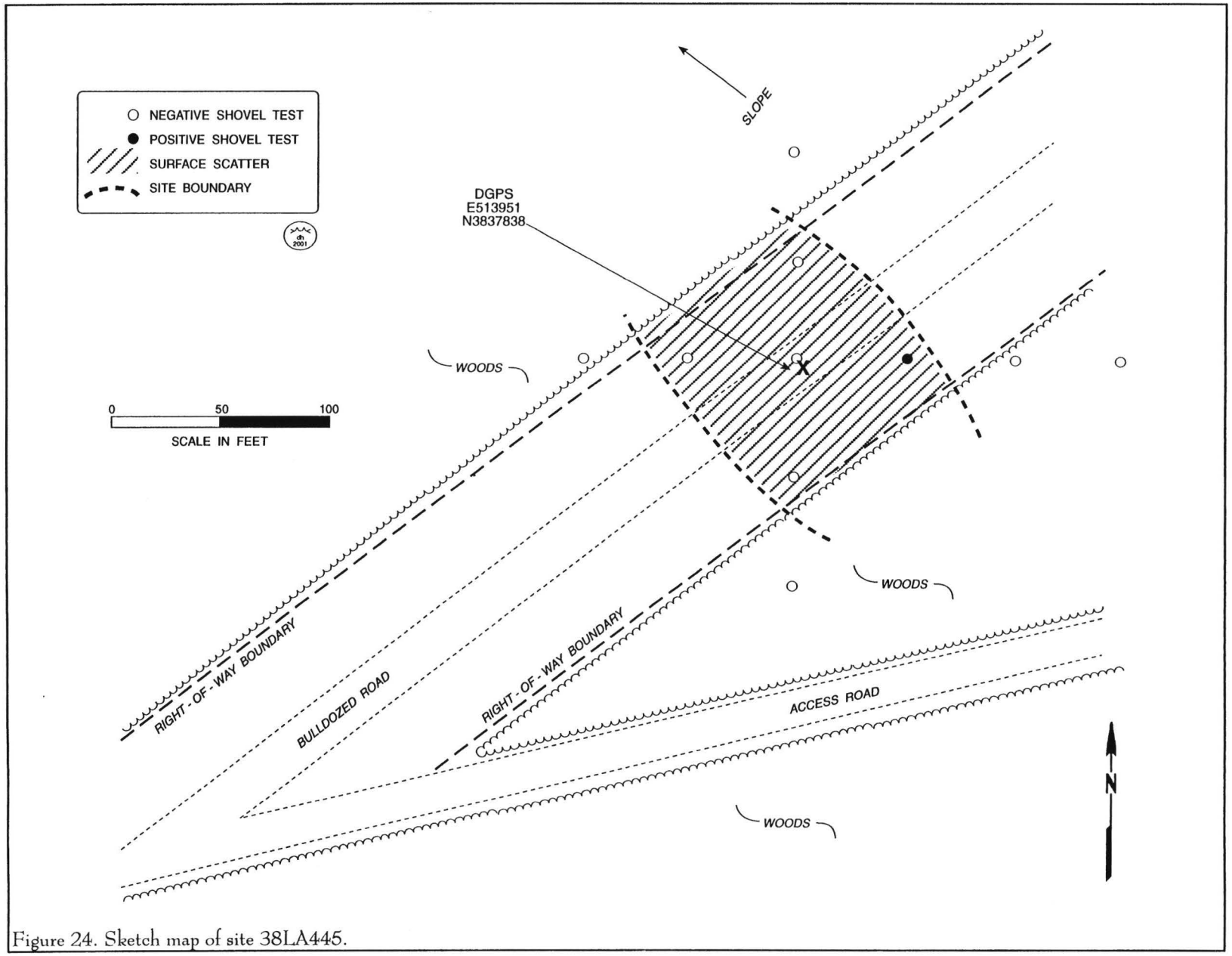


Figure 24. Sketch map of site 38LA445.

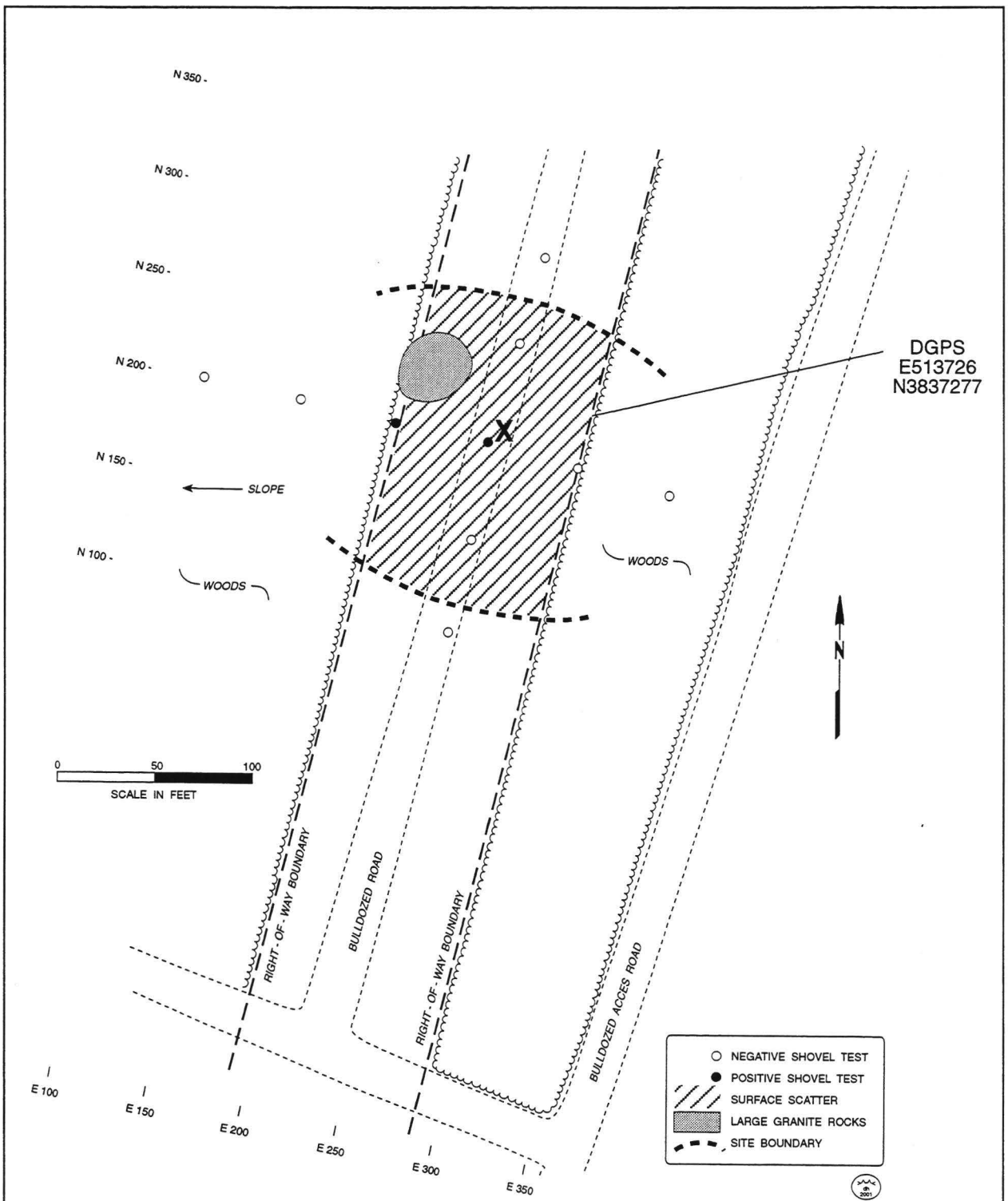


Figure 25. Sketch map of site 38LA446.

Table 3.
Artifacts Recovered from 38LA446

	N200 E200	N200 E250	Surface
Whiteware, undec.		1	6
edged			1
poly hand painted			1
White porcelain			1
Preserve jar lid	1		
Container glass, lt. green			2
clear			5
Milk glass			7
Rubber shoe sole			1
Quartz biface fragments			2

no other materials, such as flakes or other tools. The historic data sets include a range of kitchen remains (ceramics, glass, and similar materials), but there are no other artifacts, such as architectural remains or personal items. It may be that the project corridor has only exposed a dump area and the structure itself remains intact elsewhere. Nevertheless, the shovel testing found little surface material, there is no indication of intact features or architectural remains, and the site has been heavily damaged by construction activities. It seems unlikely that the site can address significant research questions. Pending the review of the State Historic Preservation Office, we recommend this site not eligible.

38LA447

Site 38LA447 is a historic cemetery situated on a ridge top at an elevation of 530 feet AMSL west of S-187 and immediately north of a jeep trail. The cemetery is not within the proposed corridor, but is just to the northwest. No shovel testing was conducted at the site and no detailed map was prepared. The central UTM coordinates are E514175 N3838076 (NAD27 datum). While the surrounding area has been logged, the cemetery itself is heavily wooded with a thick understory.

The cemetery is not shown on the current USGS topographic map, the 1939 General Highway and Transportation Map of Lancaster County, or the 1904 soil survey map. It is, however, shown on the modern soil survey (Rogers 1973).

A number of monument fragments were found dispersed in the cemetery area, perhaps from some previous logging activity. At least 45 sunken burial pits were evident in the cemetery area (five with commercial headstones), which is estimated to be about 175 feet north-south by 200 feet east-west. The marked burials reveal dates ranging from 1911 through 1961. Besides the commercial stones, the cemetery also includes the use of fieldstones, as well as remnant metal funeral home markers.

This site is recommended eligible for inclusion on the National Register of Historic Places under Criterion D (information potential). The data sets present include at least 45 marked and sunken graves, with the potential for others, spanning the twentieth century. There is a potential for the recovery of human skeletal remains, as well as coffin hardware and other funerary remains. These data sets have the potential to address a broad range of significant questions. It may address issues of socioeconomic status and coffin hardware; the biocultural study of disease, heath, and nutrition; and the landscape setting of small upland Piedmont cemeteries.

Cemeteries such as this are exceptional data sources, even if they are never excavated. There are a number of research issues appropriate to archaeological investigation that do not require destructive techniques. The use of a penetrometer, for example, can often help document the exact location and orientation of graves. Mapping a cemetery to reveal its size, complexity, and nature of above-ground features may provide information on socioeconomic status and social organization. The markers still present, their materials, and their execution may provide information on trade and business patterns (which may tied into consumer choice studies being conducted using strictly archaeological materials elsewhere).

Of course, graveyards are also protected by South Carolina law (e.g. Section 16-17-590 et seq.,

Figure 26. View of the south (front) facade of the Camp Creek Zion A.M.E. Church.

Code of Laws of South Carolina, 1979, as amended). Nevertheless, we recommend that the project take proactive steps to ensure the preservation and protection of this site.

Given the proximity of construction to this cemetery, special steps need to be taken to ensure its preservation. This will entail clearly marking the cemetery on all construction documents with a clear note on the drawings and plans (not simply in the special conditions) that the area is off limits to all construction activity, including but not limited to staging, parking, turn arounds, and storage of materials. Furthermore, the area should be made off-limits to all contractor personnel. The project sponsor should also fence this area, using minimally a 50-foot buffer (or a size of 225 north-south by 250 feet east-west) using high visibility barrier fencing. At the conclusion of the construction, this area should have all scrub vegetation removed by hand and a chain link fence erected to mark its location. Signage should detail appropriate regulations, such as the cemetery being closed after dark and that vandalism and theft are felonies under South Carolina law. In other words, the project sponsor should move aggressively, as part of this current project, to ensure that this site is not damaged.

Historic and Architectural Resources

There were four architectural sites previously identified within the 1 mile APE. Two represent structures (10.002 and 10.006) and two represent churches with associated cemeteries (10.001 and 15.001). These sites were revisited as part of this study.

We found that neither of the two structures were still standing. In one case there is some remnant debris suggesting that the site may have been demolished. In the other case, there is no evidence of the structure. Regardless, both had been previously recommended not eligible.

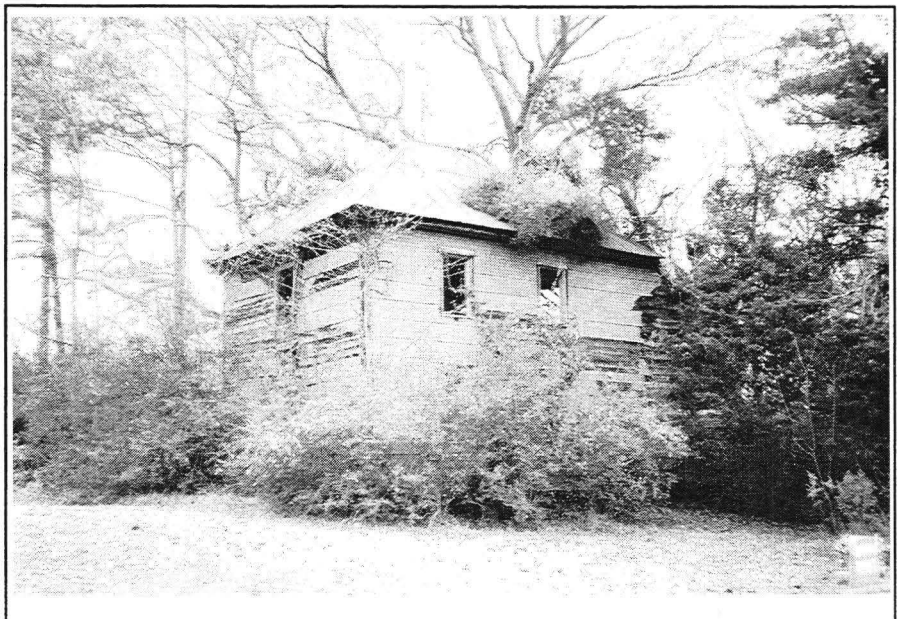


Figure 27. Brush arbor church at the rear of the Camp Creek Zion A.M.E. Church.

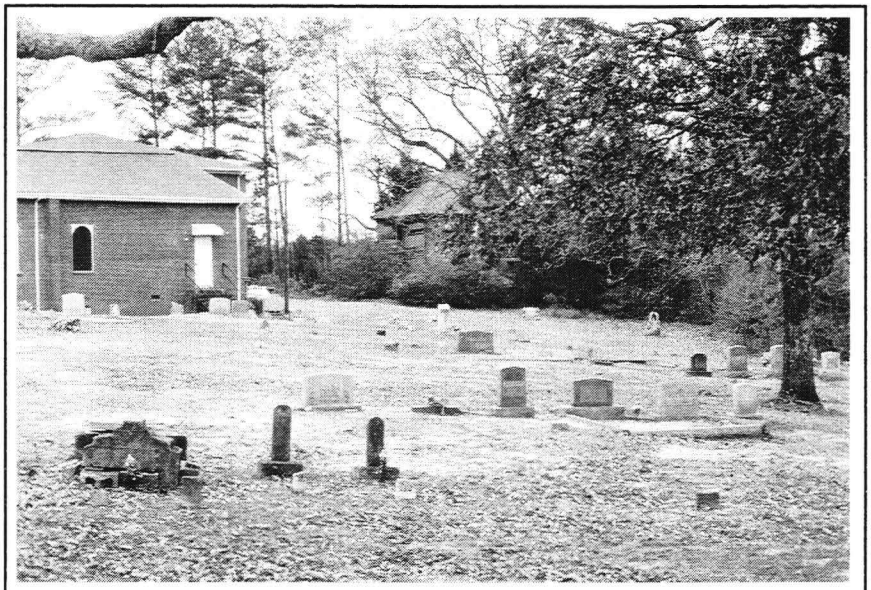


Figure 28. Cemetery at the east side of the Camp Creek Zion A.M.E. Church.

The two churches were both still standing. The Camp Creek Zion A.M.E. Church and Cemetery is identified as 10.001 and is located at 4022 Demount Road. While originally constructed about 1929, the church building has gone through at least three periods of alteration in 1950, 1960, and 1966. This work added brick veneer, removed the original bell tower, and added synthetic siding to some portions of the building. To the rear of this highly altered church building are the remains of the original "brush arbor" church. Unfortunately these remains are badly deteriorated and in ruinous condition. The associated cemetery includes a variety of monument styles, many of which are early. This church and associated cemetery have been previously found not eligible.

The Camp Creek United Methodist Church and Cemetery is identified as site 15.001. The church was built about 1835, but has been moved and extensively renovated with the addition of synthetic siding and composition shingles. A modern (ca. 1960) church hall has also been added. The cemetery, to the rear of the buildings, is heavily dominated by modern granite markers. The initial survey found the church and cemetery not eligible.

Both churches are almost a mile from the proposed road, so this construction is not likely to affect the visual integrity of either building, regardless of eligibility assessment. However, this road is simply a prelude to the proposed construction activities, which are likely to dramatically affect the general project area. It is reasonable to anticipate some considerable degree of construction-related impact, including both short-term increases in dust and noise, as well as long-term increases in traffic, additional road construction, additional utility construction, and other changes in the surrounding rural landscape.

Figure 29. Camp Creek United Methodist Church, north and west (front) facades.

Figure 30. Cemetery at the rear of the Camp Creek United Methodist Church.

SUMMARY AND RECOMMENDATIONS

This study involved the examination of an 8.5 mile road corridor situated in southwest Lancaster County, South Carolina. The corridor, to be called Catawba Ridge Boulevard, will link SC 200 to S-187 (Bethel Road) and serve as the main access for the proposed Catawba Ridge development. This 3,000 acre tract, which was not included in this survey, will include residential, commercial, and retail areas on both sides of the corridor and extending west to the Catawba River. This work, conducted for D.H. Hagins and Associates, is intended to examine the archaeological sites found on the proposed 100-foot road right-of-way, as well as historic sites which are within a 1-mile area of potential effects (APE). This report is intended to assist D.H. Hagins and its clients comply with their historic preservation responsibilities.

While surrounding areas had been under cultivation, most of the 3,000 tract is today wooded. The corridor, however, had been largely cleared, grubbed, and graded at the time of this investigation. This work, while providing excellent visibility for virtually all of the corridor, also resulted in considerable damage to archaeological resources, through both the logging and earth moving operations, as well as from the subsequent erosion. Red clay was generally exposed throughout the corridor and most sites were found through the pedestrian survey. Relatively few artifacts were found in shovel testing. The shovel tests, conducted at 100 foot intervals, revealed generally deflated soils and extensive erosion. Comparison of the observed soil profiles to those typical of preserved Cecil soils suggests that anywhere from 0.5 foot to as much as 1.2 feet have been lost.

As a result of this investigation, thirteen sites (38LA435 - 38LA447) were identified within or immediately adjacent to the corridor. Twelve of these sites (38LA435 - 38LA446) are recommended not eligible for inclusion on the National Register of Historic Places. No additional management activities are recommended for these sites, pending the review and concurrence of the State Historic Preservation Office.

One site, 38LA447, is a small cemetery. This site is recommended eligible under Criterion D since it is likely that the site contains bioarchaeological data sets that can address significant research questions, including topics of diet, disease, ethnic populations, use of coffin hardware, and organization of small family cemeteries. Because of its proximity to the construction area, very special care is recommended for this cemetery.

Table 4.
Identified Archaeological Sites

Site #	Component	UMT		Eligibility
38LA435	PH (MA)	E512227	N3829911	NE
38LA436	PH	E512311	N3830449	NE
38LA437	PH (MW)	E512369	N3830852	NE
38LA438	PH	E512408	N3831169	NE
38LA439	PH(MA-LA)	E412192	N3832179	NE
38LA440	H (20th c.)	E511813	N3832957	NE
38LA441	PH/H (20th c.)	E511778	N3833203	NE
38LA442	H (20th c.)	E514878	N3838387	NE
38LA443	PH	E514002	N3837873	NE
38LA444	PH(MA- LA)/H	E514317	N3838137	NE
38LA445	PH(LA)	E513951	N3837838	NE
38LA446	PH/H(20th c.)	E513726	N3837277	NE
38LA447	H (cemetery)	E514175	N3838076	E

PH = prehistoric; H = historic; MA = Middle Archaic; LA = Late Archaic; MW = Middle Woodland; NE = not eligible; E = eligible

We recommend clearly marking the cemetery on all construction documents with a note on the drawings and plans (not simply in the special conditions) that the area is off limits to all construction activity and all contractor personnel. The project sponsor should also fence this area using high visibility barrier fencing. At the conclusion of the construction, this area should have all scrub vegetation removed by hand and a chain link fence should be erected to mark its location. Signage should inform of appropriate regulations, such as the cemetery being closed after dark and that vandalism and theft are felonies under South Carolina law.

The site density for this survey is approximately 1 site every 6 acres. Using this as a rough approximation for the much larger Catawba Ridge tract, it is possible that as many as 500 sites may be present. Moreover, it is likely that without construction damage, at least some of these sites will exhibit sufficient integrity and data sets to be eligible. We recommend that steps be taken as quickly as possible to conduct this study in order to prevent costly delays in construction schedules in the future.

In addition to the archaeological investigations, a survey of historic sites was also conducted within the 1-mile APE. A previous, comprehensive survey had identified four sites — two historic dwellings and two churches with cemeteries. The two structures (identified in the survey as 10.002 and 10.006) were no longer present and are presumed to have been destroyed. The two churches (Camp Creek Zion A.M.E. — 10.001 and Camp Creek United Methodist Church — 15.001) were both still standing with no appreciable changes from the original survey. These churches and their associated cemeteries had been previously identified as not eligible because of a lack of integrity. We concur with this previous assessment. Beyond that, the churches are located almost a mile from the proposed road and it is unlikely that the road itself will have any effect on the structures or their immediate surroundings.

Of course, the road is but one part of the 3,000 acre development and it is likely that the associated residential and retail activities will have both short-term (construction dust and noise) and long-term (change in the rural landscape, increased traffic, and increased secondary development) effects. There will be additional historic resources in the APE, when the entire 3,000 acre parcel is considered. At least some of these are likely eligible or potentially eligible and will likely be affected by the proposed undertaking. Again, careful advance planning will dramatically reduce the possibility of lengthy — and costly — delays in the project schedule.

It is possible that archaeological remains may be encountered in the corridor during construction activities. As always, the utility's contractors should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office, or Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No further land altering activities should take place in the vicinity of these discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

SOURCES CITED

Abbott, Lawrence E., Jr., John S. Cable, Mary Beth Reed, and Erica E. Sanborn

1995 An Archaeological Survey and Testing of the McLean-Thompson Property Land Acquisition, and the Ambulatory Health Care Clinic Project, Fort Bragg, Cumberland County, North Carolina. Technical Report 349. New South Associates, Stone Mountain, Georgia.

Anderson, David G.

1979 *Excavations at Four Fall Line Sites: The Southeastern Beltway Project.* Commonwealth Associates, Inc., Jacksonville, Michigan. Submitted to the South Carolina Department of Highways and Public Transportation, Columbia.

1992a A History of Paleoindian and Early Archaic Research in the South Carolina Area. In *Paleoindian and Early Archaic Period Research in the Lower Southeast: A South Carolina Perspective*, edited by David G. Anderson, Kenneth E. Sassaman, and Christopher Judge, pp. 7-18. Council of South Carolina Professional Archaeologists, Columbia.

1992b Models of Paleoindian and Early Archaic Settlement in the Lower Southeast. In *Paleoindian and Early Archaic Period Research in the Lower Southeast: A South Carolina Perspective*, edited by David G. Anderson, Kenneth E. Sassaman, and Christopher Judge, pp. 28-47. Council of South Carolina Professional Archaeologists, Columbia.

Anderson, David G., Charles E. Cantley, and A. Lee Novick

1982 *The Mattassee Lake Sites: Archaeological Investigations Along the Lower Santee River in the Coastal Plain of South Carolina.* Commonwealth Associates, Jackson, Michigan.

Anonymous

1884 *South Carolina in 1884: A View of the Industrial Life of the State.* The News and Courier, Charleston, South Carolina.

Bense, Judith A.

1994 *Archaeology of the Southeastern United States: Paleoindian to World War I.* Academic Press, New York.

Blanton, Dennis B., Christopher T. Espenshade, and Paul E. Brockington, Jr.

1986 *An Archaeological Study of 38SU83: A Yadkin Phase Site in the Upper Coastal Plain of South Carolina.* Garrow and Associates, Inc., Atlanta.

Braun, Lucy

1950 *Deciduous Forests of Eastern North America.* Hafner Publishing, New York.

Cable, John S.

1982 Differences in Lithic Assemblages of Forager and Collector Strategies. In *Archaeological Survey and Reconnaissance Within the Ten-Year Floodpool Harry S. Truman Dam and Reservoir*, edited by Richard Taylor. Report submitted to the U.S. Army

Corps of Engineers, Kansas City District.

Chapman, Jefferson

1977 *Archaic Period Research in the Lower Little Tennessee River Valley, 1975: Icehouse Bottom, Harrison Branch, Thirty Acre Island, Calloway Island.* Report of Investigations 18. University of Tennessee, Knoxville.

1985a Archaeology and the Archaic Period in the Southern Ridge-and-Valley Province. In *Structure and Process in Southeastern Archaeology*, edited by Roy S. Dickens and H. Trawick Ward, pp. 137-179. The University of Alabama Press, University.

1985b *Tellico Archaeology: 12,000 Years of Native American History*. Reports of Investigations 43, Occasional Paper 5, University of Tennessee, Knoxville.

Charles, Tommy and James L. Michie

1992 South Carolina Paleo Point Data. In *Paleoindian and Early Archaic Period Research in the Lower Southeast: A South Carolina Perspective*, edited by David G. Anderson, Kenneth E. Sassaman, and Christopher Judge, pp. 242-247. Council of South Carolina Professional Archaeologists, Columbia

Coe, Joffre

1952 The Cultural Sequence of the Carolina Piedmont. In *Archaeology of the Eastern United States*, edited by J.B. Griffin, pp. 301-311. University of Chicago Press, Chicago.

1964 *The Formative Cultures of the Carolina Piedmont*. Transactions of the American Philosophical Society 54(5).

Daniel, I. Randolph, Jr.

1992 Early Archaic Settlement in the Southeast: A North Carolina Perspective. In *Paleoindian and Early Archaic Period Research in the Lower Southeast: A South Carolina Perspective*, edited by David G. Anderson, Kenneth E. Sassaman, and Christopher Judge, pp. 68-77. Council of South Carolina Professional Archaeologists, Columbia.

DeBow, J.D.B.

1854 *Statistical View of the United States*. A.O.P. Nicholson, Washington, D.C.

Derting, Keith M., Sharon L. Pekrul, and Charles J. Rinehart

1991 *A Comprehensive Bibliography of South Carolina Archaeology*. Research Manuscript 211. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Drucker, Lesley, Ronald Anthony, Susan Jackson, Susan Krantz, and Carl Steen

1984 *An Archaeological Study of the Little River-Buffalo Creek Special Land Disposal Tract*. Carolina Archaeological Services, Columbia. Submitted to U.S. Army Corps of Engineers, Savannah District, Savannah, Georgia.

Ferguson, Leland G.

1971 *South Appalachian Mississippian*. Ph.D. dissertation, University of North Carolina, Chapel Hill. University Microfilms, Ann Arbor, Michigan.

Goldenweiser, E.A. and Leon E. Truesdell

1924 *Farm Tenancy in the United States*.

Census Monographs 4. Department of Commerce, Bureau of the Census, Washington, D.C.

Goodyear, Albert C., III and Glen T. Hanson
1989 *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson*. Anthropological Studies 9. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Goodyear, Albert C., John H. House, and Neal W. Ackerly
1979 *Laurens-Anderson: An Archaeological Study of the Inter-Riverine Piedmont*. Anthropological Studies 4, Occasional Papers of the Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Gunn, Joel D. And Kathy Wilson
1993 *Archaeological Data Recovery Investigations at Sites 38CT54 and 38CT58 Along the S.C. 151 Jefferson Bypass, Chesterfield County, South Carolina*. Garrow and Associates, Raleigh. Submitted to the S.C. Department of Highways and Public Transportation, Columbia.

Hasselton, George M.
1974 Some Reconnaissance Geomorphological Observations in Northwestern South Carolina and Adjacent North Carolina. *Geologic Notes* 18(4):60-67.

Hatley, Tom
1993 *The Dividing Paths: Cherokees and South Carolinians Through the Era of the Revolution*. Oxford University Press, New York.

Hilliard, Sam B.
1984 *Atlas of Antebellum Southern Agriculture*. Louisiana State University Press, Baton Rouge.

Johnson, Thomas F.
1970 *Paleoenvironmental Analysis and Structural Petrogenesis of the Carolina Slate Belt near Columbia, South Carolina*. Unpublished M.S. Thesis, Department of Geology, University of South Carolina, Columbia.

Jones, Olive R.
1986 *Cylindrical English Wine and Beer Bottles, 1735-1850*. National Historic Parks and Sites Branch, Quebec.

Jones, Olive R. and Catherine Sullivan
1985 *The Parks Canada Glass Glossary for the Description of Containers, Tableware, Flat Glass, and Closures*. National Historic Parks and Sites Branch, Parks Canada, Quebec.

Kovacik, Charles F. and John J. Winberry
1987 *South Carolina: The Making of a Landscape*. University of South Carolina Press, Columbia.

Küchler, A.W.
1964 *Potential Natural Vegetation of the Conterminous United States*. Special Publication No. 36. American Geographical Society, New York.

Lowry, M.W.
1934 *Reconnaissance Erosion Survey of the State of South Carolina*. U.S. Department of Agriculture, Soil Conservation Service, Washington, D.C.

Michie, James
1977 *The Late Pleistocene Human Occupation of South Carolina*. Unpublished Honor's Thesis, Department of Anthropology, University of South Carolina,

Columbia.

Mills, Robert
1972 [1826] Statistics of South Carolina. Reprinted. The Reprint Press, Spartanburg, South Carolina.

Oliver, Billy L.
1981 *The Piedmont Tradition: Refinement of the Savannah River Stemmed Point Type*. Unpublished Master's thesis, Department of Anthropology, University of North Carolina, Chapel Hill.

1985 Tradition and Typology: Basic Elements of the Carolina Projectile Point Sequence. In *Structure and Process in Southeastern Archaeology*, edited by Roy S. Dickens and H. Trawick Ward, pp. 195-211. The University of Alabama Press, University.

Oliver, Billy L., Stephen R. Claggett, and Andrea Lee Novick
1986 Lithic Analysis. In *Indian and Freedmen Occupation at the Fish Hall Site (38BU805), Beaufort County, South Carolina*, edited by Michael Trinkley, pp. 183-207. Research Series 1. Chicora Foundation, Inc., Columbia.

Phelps, David A.
1983 Archaeology of the North Carolina Coast and Coastal Plain: Problems and Hypotheses. In *The Prehistory of North Carolina: An Archaeological Symposium*, edited by Mark A. Mathis and Jeffrey J. Crow, pp. 1-52. North Carolina Division of Archives and History, Department of Cultural Resources, Raleigh.

Price, Cynthia
1979 *19th Century Ceramics in the Eastern Ozark Boarder Region*. Monograph Series 1. Center for Archaeological Research, Southwest Missouri University, Springfield.

Rogers, Vergil A.
1973 *Soil Survey of Lancaster County, South* Carolina. United State Department of Agriculture. Soil Conservation Service, Washington, D.C.

Ryan, Thomas M.
1972 *Archaeological Survey of the Columbia Zoological Park, Richland and Lexington Counties, South Carolina*. Research Manuscript Series 37. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Sassaman, Kenneth E.
1983 *Middle and Late Archaic Settlement in the South Carolina Piedmont*. Unpublished master's thesis. Department of Anthropology, University of South Carolina, Columbia.

1985 A Preliminary Typological Assessment of MALA Hafted Bifaces from the Pen Point Site, Barnwell County, South Carolina. *South Carolina Antiquities* 17:1-17.

1993 *Early Woodland Settlement in the Aiken Plateau: Archaeological Investigations at 38AK157, Savannah River Site, Aiken County, South Carolina*. Savannah River Archaeological Research Papers 3. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

1995 The Cultural Diversity of Interactions Among Mid-Holocene

Societies of the American Southeast. In *Native American Interactions: Multiscalar Analyses and Interpretation in the Eastern Woodlands*, edited by Michael Nassaney and Kenneth E. Sassaman, pp. 174-204. University of Tennessee Press, Knoxville.

Sassaman, Kenneth E. and David G. Anderson
1990 Typology and Chronology. In *Native-American Prehistory of the Middle Savannah River Valley*, edited by Kenneth E. Sassaman, Mark J. Brooks, Glen T. Hanson, and David G. Anderson, pp. 143-216. Savannah River Archaeological Research Publication 1. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

1994 *Middle and Late Archaic Archaeological Records of South Carolina: A Synthesis for Research and Resource Management*. Council of South Carolina Professional Archaeologists, Columbia.

Sassaman, Kenneth E., Mark J. Brooks, Glen T. Hanson, and David G. Anderson
1990 *Native American Prehistory of the Middle Savannah River Valley*. Savannah River Archaeological Research Papers 1. Occasional Papers of the Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina.

Schneider, David B. and Louis Jackson
1986 *Historical and Architectural Inventory of Lancaster County, South Carolina*. Preservation Consultants, Inc., Charleston, South Carolina.

South, Stanley A.
1959 *A Study of the Prehistory of the Roanoke Rapids Basin*. Master's thesis, Department of Sociology and Anthropology, University of North Carolina, Chapel Hill.

1977 *Method and Theory in Historical Archaeology*. Academic Press, New York.

Sutton, Mark Q. and Brooke S. Arkush
1996 *Archaeological Laboratory Methods: An Introduction*. Kendal/Hunt Publishing Company, Dubuque, Iowa.

Townsend, Jan, John H. Sprinkle, Jr., and John Knoerl
1993 *Guidelines for Evaluating and Registering Historical Archaeological Sites and Districts*. Bulletin 36. National Park Service, National Register of Historic Places, Washington, D.C.

Trimble, Stanley W.
1974 *Man-Induced Soil Erosion on the Southern Piedmont, 1700-1970*. Soil Conservation Society of American, Ankey, Iowa.

Trinkley, Michael
1976 *A Typology of Thom's Creek Pottery for the South Carolina Coast*. Unpublished M.A. Thesis, Department of Anthropology, University of North Carolina, Chapel Hill.

1980a *Additional Investigations at 38LX5*. South Carolina Department of Highways and Public Transportation, Columbia.

1980b *Investigation of the Woodland Period along the South Carolina Coast*. Ph.D. dissertation. Department of Anthropology, University of North

Carolina, Chapel Hill.

Trinkley, Michael, Debi Hacker, and Natalie Adams
1993 *Life in the Pee Dee: Prehistoric and Historic Research on the Roche Carolina Tract, Florence County, South Carolina*. Research Series 39. Chicora Foundation, Inc., Columbia.

United States Department of Agriculture
1904 *Soil Survey of Lancaster County, South Carolina*. U.S.D.A., Washington, D.C.

1983 *Yadkin-Pee Dee River Basin, North and South Carolina — Forest Resources*. U.S.D.A., Washington, D.C.

Walthall, John A.
1980 *Prehistoric Indians of the Southeast: Archaeology of Alabama*. University of Alabama Press, University.

Ward, Trawick
1983 A Review of Archaeology in the North Carolina Piedmont: A Study in Change. In *The Prehistory of North Carolina An Archaeological Symposium*. Edited by Mark A. Mathis and Jeffrey J. Crow, pp. 53-81. North Carolina Division of Archives and History, Raleigh.

Waring, Antonio J., Jr.
1968 The Refuge Site, Jasper County, South Carolina. In *The Waring Papers: The Collected Works of Antonio J. Waring, Jr.*, edited by Stephen B. Williams, pp. 198-208. Papers of the Peabody Museum of Archaeology and Ethnology 58.

Watson, E.J.
1907 *Handbook of South Carolina: Resources, Institutions and Industries of the State*. The State Company, Columbia.

Williams, Stephen B., editor
1965 *The Paleo-Indian Era: Proceedings of the 20th Southeastern Archaeological Conference*. Bulletin 2. Southeastern Archaeological Conference.

Woofter, T.J., Jr.
1936 *Landlord and Tenant of the Cotton Plantation*. Research Monograph 5. Division of Social Research, Works Progress Administration, Washington, D.C.

Writers' Program, Work Projects Administration
1941 *South Carolina: The WPA Guide to the Palmetto State*. Oxford University Press, New York.

Yohe, Robert M., II
1996 Analysis of Flaked Stone Artifacts. In *Archaeological Laboratory Methods: An Introduction*, edited by Mark Q. Sutton and Brooke S. Arkush, pp. 39-68. Kendall/Hunt Publishing, Dubuque, Iowa.